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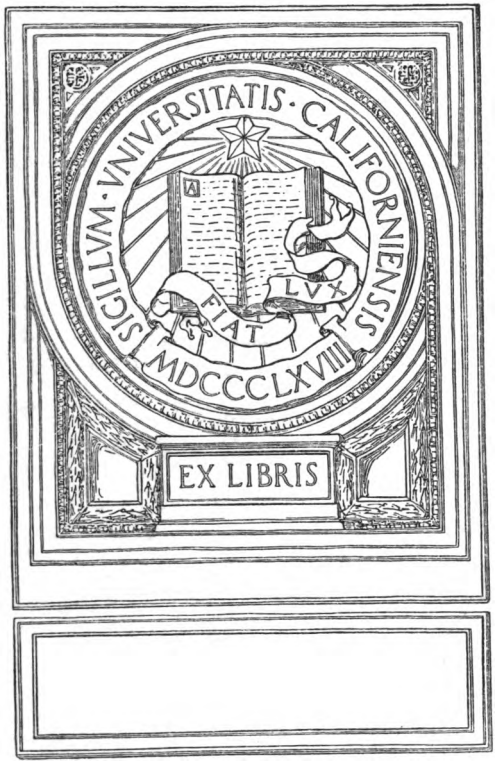

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THE ALPINE JOURNAL

VOL. 41, NOS. 238 AND 239

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THE

ALPINE JOURNAL

A RECORD OF MOUNTAIN ADVENTURE

AND

SCIENTIFIC OBSERVATION

BY MEMBERS OF THE ALPINE CLUB

VOL. 41

1929

(Nos. 238 AND 239)

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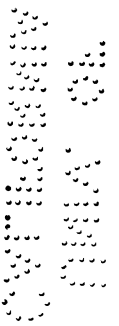

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Portraits of Dr. P[illegible] and Jacques B[illegible] [illegible] K. H. [illegible], illustrat[illegible] the paper [illegible] E. H. Ste[illegible] [illegible]."

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THE

ALPINE JOURNAL.

MAY 1929.

(No. 238.)

Valedictory Address.

By GEORGE HENRY MORSE, President of the Alpine Club.

(Read before the Alpine Club, December 10, 1928.)

TRADITION seems to have imposed on your retiring President the duty of reviewing the happenings in our Club during his three years of office, and I am rather reminded of the Israelites who complained that they could not make bricks without straw, for after the glorious stories of Mt. Everest and Mt. Logan, the last three years have produced no such very great adventures in our history. Luckily as every cloud is said to have a silver lining somewhere, so also my story to-night will be redeemed by the mention of some brilliant climbs, proving that the Alpine Club is still going strong.

Some of you may occasionally read the Alpine Journal, or at any rate look at the pictures, and if you do, you will perhaps be saying to yourselves, we know quite well what he is going to tell us to-night, and we hope he will get on with it quickly.

May I say first of all that the Club continues to increase. Eighty-six new members have joined during these three years, whilst we have lost 51 by retirement and death, a net addition of 35, leaving the total membership to-night at 682.

Still, a Club feels deeply the loss of old friends, especially when they are honoured names in the climbing world, who in their time have shown a great love for the mountains and have upheld to the full the true traditions of mountaineering.

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Some must be mentioned by name to-night, Mr. Coolidge first of all. There have been, or are, few members of this Club who could show a similar record of activity in the Alps, fewer still who could compete with him from a literary and historical standpoint. Editor of the ALPINE JOURNAL for nine years, reviser of *Ball's Guide*, joint editor of the *Climbers' Guides*, and writer of innumerable other works. As a Member and Honorary Member for over fifty years, his death brings home to us what a help Mr. Coolidge was in his time to all the interests this Club possesses.

We have also lost two of our past Honorary Secretaries and Vice-Presidents—C. H. R. Wollaston and A. L. Mumm—both of them enthusiastic over the Club's affairs, voluntarily working for its good, keen to help in every way, when members desired information or assistance.

At the time of his death Mr. A. L. Mumm was our Honorary Librarian. His first two volumes of the 'Alpine Club Register' are of absorbing interest to members. Prior to his departure on his last voyage round the world, he had arranged for the publication of the third volume covering the years 1877 to 1893. It was published in June this year. Is it too much to hope that some enthusiastic member may be found to carry the work still further?

By the death of Mr. R. P. Bicknell, in the sad accident on the Southern Aiguille d'Arves, the Club lost a Vice-President and a climber of rare merit, and we can ill afford to spare a member who took such an active interest in all the doings of the Club.

Then in August last, George Edward Wherry died suddenly at Zermatt, and was laid to rest in the small cemetery there. He was a distinguished surgeon, and for over 25 years lectured on surgery to the University of Cambridge. We knew him as a keen lover of the mountains; of late years he made Zermatt his headquarters, taking long walks even to quite near the end.

Sir Alexander Kennedy's lamented death occurred only a few weeks ago; not a great climber perhaps, but no one was a greater lover of the Alpine Club.

I ought also to mention the death of M. Henri Ferrand who was elected an Honorary Member in 1918. He was an author and historian with a very wide knowledge of the Alps, and had made a special study of the Dauphiné and Mont Blanc ranges. He took the greatest interest in the Club on all occasions.

In May 1928, another Honorary Member, Colonel F. Regaud,

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President of the French Alpine Club, died suddenly in Bucarest. He was a mountaineer of repute who had done much climbing in the Graians and Dauphiné prior to the war. During the war he commanded a battalion of *Chasseurs Alpins* with great distinction. He was a man of strong and charming personality with a wide circle of friends. Many of those present here to-night will remember his admirable speech on the occasion of our last winter Dinner.

The hand of time is ever moving on, and among our older members we have lost Thomas Howse (1864), Eliot Howard and Alexander Mortimer (1867), Sir R. Melvill Beachcroft, Walter Leaf and Alexander Crossman (1871), F. Monier-Williams (1873), and J. A. Carfrae (1874), while among the younger members Harold Raeburn and Ralph Todhunter were mountaineers of great repute. Finally, and since this paper was read, we have to deplore the sudden death of one of the very greatest guides of all time, Christian Klucker. Almost a pioneer, his name will be remembered throughout the length and breadth of the Alps. He died at Sils Maria on December 21 last.

Passing to happier events, it is worth recording that in 1926 we admitted, as members of the Club, climbers from a new country, to wit, Japan. Three Japanese members have qualified for admission in the usual way, and in all cases their qualifications for membership were of a very high order.

Further, H.I.H. The Prince Chichibu of Japan was elected an Honorary Member this year. He is an ardent and capable mountaineer, and it is largely due to his example that mountaineering has become firmly established as the chief active recreation of the educated young Japanese.

During his stay in Europe he went to the Alps on three occasions, and had he not been compelled to return suddenly to Japan, he also would have qualified easily for ordinary membership.

The Club were glad to pay a compliment to Japan by electing His Imperial Highness an Honorary Member.

During my three years we have had, thanks to our Honorary Secretary, Mr. Spencer, three picture and three photographic exhibitions. These exhibitions are always popular and interesting, and I do not think Mr. Spencer would be really happy unless he were planning one of these shows for his own amusement and for our edification.

I express our thanks to him, and to those who have at various times assisted him. Your retiring President takes no

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credit for the success achieved, he is far more useful on a mountain side than in a picture gallery.

The event of outstanding importance to the Club in 1926 was the resignation of Mr. Yeld and Captain Farrar as Joint Editors of the JOURNAL. During their long terms of office, and be it noted they far exceeded in this respect any of their predecessors, they gave ungrudgingly of their time and widespread knowledge, increasing the already high reputation of the ALPINE JOURNAL both at home and abroad. Colonel Strutt very kindly stepped into the breach, and the Club is fortunate in having as Editor one whose mountaineering knowledge and literary skill leave nothing to be desired.

Turning to literature, many interesting books have been written, and I make special mention of only a few: the 'Journal of de Saussure's visit to Chamonix and ascent of Mont Blanc,' by E. Gaillard and H. F. Montagnier, published at Lyons in 1926, and by the same authors, 'Le Mont Blanc et le Col du Géant,' published in 1927; both are books worth reading by those interested in the Chamonix district and in the early accounts of de Saussure's ascent, 140 years ago.

'The Epic of Mount Everest,' by Sir Francis Younghusband (1926) is another book which one takes up and is loth to put down. The story of Mt. Everest is almost as fascinating as Whymper's 'Scrambles,' a book which, in its day, certainly secured many a new member for the Alpine Club.

Next I come to G. Winthrop Young's 'On High Hills.' Here is a book which lovers of mountains can read and re-read. A fascinating book, full of thrilling experiences and entrancing descriptions, a credit to the author, bringing out the wonders and glories of the Alps, and the delights that every true climber can derive from mountaineering.

I must now mention some of the new climbs and expeditions which members of our Club have carried out during the past three years, and, beginning near home, the Alps, I first of all refer to Mr. R. W. Lloyd's ascent of the Aiguille de Bionnassay from the N. in 1926.

Many of us will remember the view of this mountain from the neighbourhood of Sallanches when driving on a fine day in the old diligence from Geneva to Chamonix, a beautiful white peak standing out against a blue sky, flanking the monarch Mont Blanc. It appears to be a mountain not often ascended, and like many a steep snow peak, the condition of the snow may make the ascent possible in one season and impossible in another. Mr. Lloyd's account of his ascent in

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our JOURNAL is far more interesting than anything I can say, and he and his guides are to be congratulated on climbing this beautiful mountain by a new route, some sixty-one years after the first ascent.

Another very interesting and successful expedition in 1926 was the ascent of Mt. Olympus by Messrs. Elmslie and Sleeman's party, in the course of a journey through the Balkans. They brought back many excellent photographs and much useful information about the district, gathered during their tour in a region of such ancient and historical interest.

Going much farther afield the traverses of Mts. Tasman and Cook by Messrs. Harold Porter and Marcel Kurz, and other interesting climbs in the New Zealand Alps deserve special mention in my three years' survey. Full accounts of these expeditions have been published in the JOURNAL.

Then I ought also to mention the ascent of Kilimanjaro in 1927 by our member, Mr. W. C. West with Miss Sheila Macdonald, the first lady to ascend the highest point of Kilimanjaro. They also, with Major Lennox-Browne, ascended Mawenzi, making the third ascent and first by a lady. She, I need hardly say, is a daughter of our member, Mr. Claude Macdonald.

Mr. G. N. Humphreys's *two* remarkable journeys and ascents in the Ruwenzori district in 1926 deserve special recognition.

Then last year, 1927, Messrs. F. S. Smythe and T. Graham Brown, without guides, found a new route up Mont Blanc direct from the Brenva Glacier, an expedition carried out with marvellous forethought. From the point of view of a climb, the word 'brilliant' may well be used, and for the climbers themselves, the face up which they went, meeting with many doubts and difficulties *en route*, must always remain in their memories as a rock and snow precipice, practically unique in the Alps.

I must also record Brigadier R. C. Wilson's journey in the Kumaon Himalayas. He was accompanied by Mr. and Mrs. Hugh Ruttledge, and among other interesting climbs made the passage of Traill's Pass, which had not been crossed for sixty-four years. Dr. Longstaff returned to his old love, Nanda Devi, 'twenty years after' his last visit. He has also visited Greenland, a very different country!

Coming to this year, 1928, many new expeditions have been accomplished, among which the following deserve short mention.

First, the ascent of the Dent Blanche by the N. arête by Mr. I. A. Richards, accompanied by Mrs. Richards and Joseph

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and Antoine Georges. This is the arête which runs towards the Grand Cornier and down to the Col de la Dent Blanche, and is the last arête of this fine peak to be climbed. They must be congratulated on a very fine ascent, which they will always remember with pleasure.

I have already mentioned Messrs. F. S. Smythe and T. Graham Brown's ascent last year of Mont Blanc from the Brenva Glacier, and this year they made the first direct ascent of Mont Blanc de Courmayeur from the same glacier. We heard Mr. Graham Brown's story at our meeting in November last, illustrated by magnificent photographs, and I gather that the party is now well acquainted with both sides of the large couloir. Truly a great expedition.

Then Monsieur E. R. Blanchet ascended the Zinal-Rothhorn from the top of the snow arête, where the ordinary route bears to the left to gain the gully leading up to the gable. The ascent may be described as by the S.E. arête and E. face. Many of us must have looked at it, but it has remained for M. Blanchet to first make what must be an interesting and always difficult climb. He also made the ascent of the Fletschhorn by the N. face. I understand it was very difficult, and the Club may be proud of one of their members making these two remarkable new ascents.

Mr. H. F. Montagnier, fresh from his journey with Captain C. J. Morris in the Karakorams, is with us to-night.

A few other items of interest occur to me in connexion with the doings of the Club during the past three years.

In 1926, a Memorial Tablet to members killed in the War was placed in the entrance hall of the Club. A lasting tribute to the debt we owe them.

In 1927, Her Majesty the Queen inspected the Club rooms after visiting an Exhibition in the Hall; and a copy of the JOURNAL is now regularly sent to Her Majesty, who is graciously pleased to accept it.

The Winter Dinner in 1927 was honoured by the presence of Dr. Henri Faes, President of the Swiss Alpine Club, and the Club paid him the compliment of electing him an Honorary Member on the previous evening. A compliment which we understand he very much appreciated.

The Committee are hoping to publish very shortly an index to Vols. **16** to **38** of the JOURNAL. This ought to be exceedingly useful to anyone wishing for information about any particular point, and will add greatly to the value of the said JOURNAL.

One other interesting point is that a new 'Alpine' Club

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called the 'Himalayan Club' has been established this year, with its headquarters at Simla, and already many members have joined it. There is a very slightly older Club called the 'Mountain Club of India' with headquarters at Calcutta, and should it be possible for these two to join forces, the joint membership will, I am told, start with at least 250 members.

Such a club must of necessity be of very great use, not only to officers and civilians out there, but also to anyone visiting India to climb. In the immense mountain ranges to the N., the number of peaks is practically unlimited with a variation in height sufficient to suit any would-be mountaineer. Colonel Strutt is the Local Correspondent for this country and has been provided with a complete series of maps for the Himalayas.

You will, I know, allow me to remind you that we still have with us two ex-Presidents who joined the Club 64 years ago. I refer to Mr. Douglas Freshfield and Bishop G. F. Browne. We are always pleased to see Mr. Freshfield, when he is able to attend our General Meetings. The Bishop's great age naturally prevents him coming. May I, in your name, offer them our congratulations, and thank them for the great interest they have always taken in the Club?

It is interesting also to note that we have 5 members on our Club list of 60 to 62 years' standing.

Mr. A. O. Prickard (1866).
Mr. Justice Oliver Wendell Holmes (1866).
Sir Frederick Pollock, Bart. (1867).
Rev. C. A. Heurtley (1868).
Mr. G. E. Marindin (1868).

We often have the pleasure of seeing Mr. Prickard at our meetings, and such a list seems to be a good advertisement for the benefits derived from mountaineering, and I should like to offer them our congratulations, as also to Dr. H. Dübi who has just celebrated his eightieth birthday.

I have now, I believe, recorded the chief incidents connected with my three years of office, and I owe grateful thanks to Mr. Spencer for generous help, freely given, on many occasions, and I also wish to thank Mr. Oughton for the valuable assistance he has always readily extended to me.

I regret that the only tangible asset I have been able to give the Club during my Presidency is my copy of the first printed account of the first ascent of Mont Blanc.[1] As there are only two other known copies in existence, both at Geneva,

[1] See *A.J.* **40**, 181.

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I hope that the Alpine Club Library now possesses a pamphlet as interesting as it is rare.

In conclusion, I must once more thank the Club for the very great honour they did me in electing me President. Yes—and for more than that, for the courtesy and kindness shown to me on all occasions, and I end with the words of Rip Van Winkle in the old play, 'May you all live long and prosper.'

Eight Days in the Japanese Alps.

By H.I.H. The PRINCE CHICHIBU.

THE summer of 1927 had already passed its zenith, and news from the mountains was growing less frequent in the daily press, when I left Karuisawa, on August 21, for a few days' climbing in the Northern Japanese Alps. The Karuisawa season was practically over, and the tints of autumn were already appearing on moorland and forest. The clouds hung so heavily that many anxious glances were directed heavenwards. However, as our train passed on through Shinonoi and Obasute the weather began to improve, and with the growing heat our eyes were dazzled by the sun's blinding glare. My eager longing to be all the sooner on the cool banks of the Azusagawa made the speed of the train appear all the more painfully slow. Eventually we reached Matsumoto at 11.30 A.M. and here we were met by Maki, Hayakawa, and Okabe, with whom we boarded the tram for Shimashima. As we were told that this had been specially ordered to take us there in half an hour, we got through our lunch as quickly as possible. From the tramway terminus we took cars as far as Shimashima and thence went on up the forest-clad ravine in a horse-drawn truck. I was reminded of the summer, four years ago, when we were hurrying down at top speed to make up for the time we had lost by our late departure from Kamikōchi after our traverse of the ridge from Tsubakuro to Yari-ga-take. This time, it is true, I was in a horse-drawn truck, but I did not find it nearly so comfortable as some might imagine, for I was entirely prevented from stretching my legs owing to the shortness of the truck. On the way up the valley we were caught in a downpour, but this fortunately cleared away. After a tedious two hours up hill, the horse got so done up that it was compelled

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Photo. Osaka Mainichi.

ON OKUHODAKA.

(H.I.H. Prince CHICHIBU in white hat.)

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frequently to stop for a breather, but just as I was thinking of getting out of the truck, for I was now thoroughly tired of sitting in it, we found ourselves at the Iwana-dome hut. Here we had a short halt, and then, taking off our coats, applied ourselves to the ascent of the steep, rough track leading to the Tokugō Pass, 7100 ft. above the sea and 4000 ft. above Shimashima.

Most of those who go to Kamikōchi for climbing, or who return from the mountains by way of Shimashima are compelled to cross this pass, and I have no doubt that many of them sometimes sigh 'If only there were no Tokugō Pass!' That, I think, is a very natural thing to do, and yet I am very grateful for this formidable barrier erected by Nature, since it is this which serves to preserve the simplicity of Kamikōchi unspoilt. To the many thousands who traverse it every summer it offers an appropriate training ground, and yet, although its name is familiar all over Japan, only two inns are to be found here. I was told, however, that in the near future a motor-road is to be constructed to facilitate its passage. Well, doubtless modern facilities have their uses, for it seems a pity that the enjoyment of such beautiful scenery as this should be confined to a few: still my great hope is that Kamikōchi may always, in itself, remain just as it is to-day.

It was 6 P.M. when we gained the top of the pass. The peaks of Hodaka flushed golden in the evening glow, but the sun sank so swiftly behind them that I had not even time to take out my camera from my rucksack, and as soon as we stopped to rest the air grew quite chilly. By the time we got down to the meadows at the foot of the pass it had grown quite dark and soon we caught sight of the glimmering of the lanterns coming from the Shimizuya inn to welcome us. I now imagined that the rest of the way from this point would be quite straightforward, but, as a matter of fact, it turned and twisted right and left and, to my surprise, there were many ups and downs on the way. 'Surely,' I thought, 'the Gosenjaku inn must be quite near by now and its light visible?' But even after a considerable distance farther no lights could be seen that appeared to belong to it. However, at last we began to discern them glancing through the trees and presently we were abreast of the Gosenjaku receiving the greetings of some dozens of people who were drawn up to see us pass by. We then crossed the Azusagawa by the Kappa-bashi and after a walk of about a mile found ourselves, at 8 P.M., at the Shimizuya inn. Of new erections since I was last here I only noticed one

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that looked like a tea-house, and another evidently belonging to an official of the Forestry Bureau. Here and there, scattered among the trees by the river side, twinkled the lights of many camp fires. I lost no time in getting into the bath and felt that surely one of the greatest pleasures in life is to be able to stretch one's legs and to wash off the dust of a day's journey in the waters of a hot spring. I was at first afraid that it would be at least 10 P.M. before our dinner would be ready, but by great good fortune it was only just past 9 when we were able to sit down to the enjoyment of the trout for which Kamikōchi is so famous. The peaks of Yakedake and Kasumi, together with the forest of slender silver birches at their feet, were now shrouded in darkness, and as night wore on the only sound to be heard was the low murmur of the waters of the Azusagawa.

The sun's rays of a bright morning streamed through my *shōji* at an early hour, and after a leisurely breakfast I set out for a stroll as far as the Myōjin pond. The Azusagawa flowed peacefully between banks clothed with green willows and silver birches, and above all the dark granite of the massive form of Hodaka towered grandly against a clear blue sky, its cliffs here and there seamed with slopes of snow. The way as far as the shepherd's hut, which last night, in the darkness, seemed so long and so weary, was quickly covered, for our attention was absorbed by the beauty of the surrounding scenery and by the diversions of entertaining conversation. I was very sorry to find that the old shepherd's hut was burnt down and had been replaced by a quite ordinary sort of wayside tea-house. After crossing the Azusagawa we went round by the cottage where the famous old hunter Kamonji used to live, who knew so well and so deeply loved these Alps of ours. As I stood inside the little hut I could not but feel how deep his devotion to them had been. Close by stands the Hodaka shrine at which Kamonji used to worship, and passing this, we came to the Myōjin pond, in which he used to take so much delight in fishing for the excellent trout in which it abounds. To this sport we at once devoted ourselves for the rest of the morning, two of our guides, Tsune and Shō, keeping up a spirited contest between themselves. On our arrival the trout were lazily swimming about here and there unafraid, but our footsteps and our shadows alarmed them and they scattered in all directions to their hiding-places under the boulders and banks, only to reappear a few moments later from one hardly knew where. Tsune and Shō were quickly successful, and thus tempted I at once ceased to remain a mere spectator.

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Borrowing a rod I passed round to the other side of the pond and took my seat under the shelter of a tree. I soon found, however, that fly-fishing for trout here was not an easy matter and at the end of an hour's patient perseverance I had caught but one. I then changed my place to where I could see a score or more, of various sizes, but none of them seemed disposed to rise. Meanwhile I began to feel hungry for it must have been almost noon, but my attention had been so closely fixed upon the fly that I had had no chance of looking at my watch. Tsune now kindly changed my fly and at once managed a successful cast, though Okabe, who was sitting close by me, had no luck at all.

'It's already past 12 o'clock,' I heard someone call out. 'Let us have some lunch,' but I took no notice of it, and I grew so absorbed in the sport that almost a whole hour slipped by unnoticed before I could stop. I had then caught five in all, and with these I left in triumph. We came out of the forest as far as the bed of the Azusagawa and then went some distance along the right bank to a spot where we halted to make a fire and grill the trout which proved freshness itself—how good they were! But by this time the gathering clouds began to distract our attention from these delights and we were getting somewhat worried about the threatened rain. As a matter of fact, at this time of the year it is quite usual to be treated to a downpour regularly every afternoon. It was about 3 P.M. when we got back to the inn, and at dinner that evening we once more found trout upon the table. It came on as *sashimi* (*i.e.* raw, with *shōyu* and horse-radish); in soup; grilled, with salt, *miso*, or *shōyu*; or fried, in the fashionable modern style. Indeed, they seemed to serve up the fish in as many different ways as possible, and as they believed this to be the best form of entertainment they could offer us, it was a very natural thing to do.

I was told that this summer an enormous number of people had visited this part of the mountains and that the two inns of Kamikōchi had been full to overflowing all the time, in addition to the many persons camping out, whose tents were to be seen scattered about the forest. I daresay that to a certain extent this may prove to be a passing craze, though I hope that it may really turn out a permanent form of recreation rather than a mere transient fancy. I trust also that as far as possible it will always be popularised on the right lines since I feel sure that it is of the greatest importance for us to try to cultivate a true intimacy with Nature, and it

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seems a desirable thing, especially in the case of young people, to be able to spend a while in the very heart of great Nature and so catch something of her inspiration.

When I got up the following morning, August 23, the stars were shining all lonely in the dark sky, and at 4 A.M. we left the inn by lantern light. We said good-bye to the people who came to see us off at the Kappa-bashi, and soon were on the upward way.

Day was dawning as we gained the foot of the rock wall from which rise the peaks of Nishi-Hodaka and Mae-Hodaka, just after clearing the forest. Below, we caught sight of the Azusagawa shining like a silver ribbon through the mists that spread over the whole valley of Kamikōchi. We then reached the bottom of the gully between Nishi-Hodaka and Oku-Hodaka by a steep and tiresome ascent, and it was after this that the real climbing began.

Japan is said to be a mountainous country, and it is indeed true that its mountains are many, although the peaks we want for our serious climbing are comparatively few, those, I mean, on which human legs, unaided, are inadequate—the home of rock and snow. Most of these are to be found in the Hodaka-Yari range, and it is the days that the mountaineer spends in this region that afford the true joys of really sporting climbs. Although it was autumn, the sun was still blazing hot, for I think it is always when in the mountains that one feels its fierceness most. By noon we had reached the top of Mae-Hodaka and descended on the other side, and thus, for the first time since my season last year in the Swiss Alps, I had enjoyed the delights of a 'really sporting climb.' About lunch-time it began to cloud over, the weather deteriorated, and an hour later the rain came down. The roaring of the thunder that next followed proved a most unwelcome addition. I wonder if there is any more terrifying experience than a thunderstorm on a mountain top? The story of the Alps is rendered much more thrilling as one reads the accounts it contains of the tragedies of the victims of lightning on some Alpine peak. Meanwhile, the point of the ice axe carried in Maki's rucksack began to emit a hissing sound and we were compelled to take shelter under the lee of a rock just below the top of Oku-Hodaka, which we had by that time nearly reached. The downpour seemed endless and the thunderstorm from time to time above our heads was most threatening, so, for safety's sake, we deposited our axes beneath a rock a short distance away. We tried to get a little shelter under

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Photo. Osaka Mainichi.

HODAKAYAMA from below TOKUGO Pass.

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Photo. Osaka Mainichi.

N. ridge of YARIGATAKE.

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cover of our small portable tent, but our coats were soon wet through and as the time passed the weather grew colder. Whenever the downpour slackened and showed us the peaks rising across the valley, we tried to make a fresh start, and then down came the drenching rain afresh. However, after waiting for a long hour-and-a-half, we managed to get off and finally reached the top of Oku-Hodaka at 4.48 P.M., but here it was so cold that we turned and went down to the hut without halting. This hut belongs to the guide Imada. It had only been opened this year and is very conveniently fitted up, with a stove on the floor and bunks arranged in two tiers.

The night of August 24 spent near the top of the mountain passed peacefully, and at dawn, in spite of the doubtful aspect of the weather, we set out, as we had arranged, to climb to the top of Oku-Hodaka again, leaving all superfluous baggage behind in the hut. Carrying light rucksacks, we climbed to the top of the ridge which we had descended yesterday, and once more reached the summit of Oku-Hodaka. As the weather was still threatening we prepared ourselves for rain. The actual distance between the tops of Oku and Mae-Hodaka is not really great, but, as before reaching the latter peak we had a considerable descent to make, it occupied some time. On the highest point of Mae-Hodaka we found a small square fence with stones piled high against its outer sides, in one of which was a narrow opening. Possibly it may have been used as a bivouac place on some previous occasion. Roofing it over with our portable tent we crept inside and made a fire. Being myself a novice, however, I could scarcely keep my eyes open for the smoke was unendurable and I was obliged to go outside, although Okabe, hardened as he was to such disagreeables, felt not the slightest inconvenience. It occurred to me that a mountaineer's experience might fairly be estimated by the width he could keep his eyes open in the thick smoke of burning green wood ! At last the expected rain came down and I was compelled to crawl back into the tent, though I took my seat in the remotest corner away from the fire. Nevertheless, the smoke repeatedly renewed its attack as the wind whirled it round the shelter, and before I could shut my eyes they were already filled with tears. After lunch, we descended to the bivouac in the Karasawa ravine in the rain, and as the rocks on the upper part of the ridge were very disintegrated, we had to take some care. Crossing lower down some slopes of snow and next a stretch of scree, we at length found ourselves at the famous Karasawa Cave.

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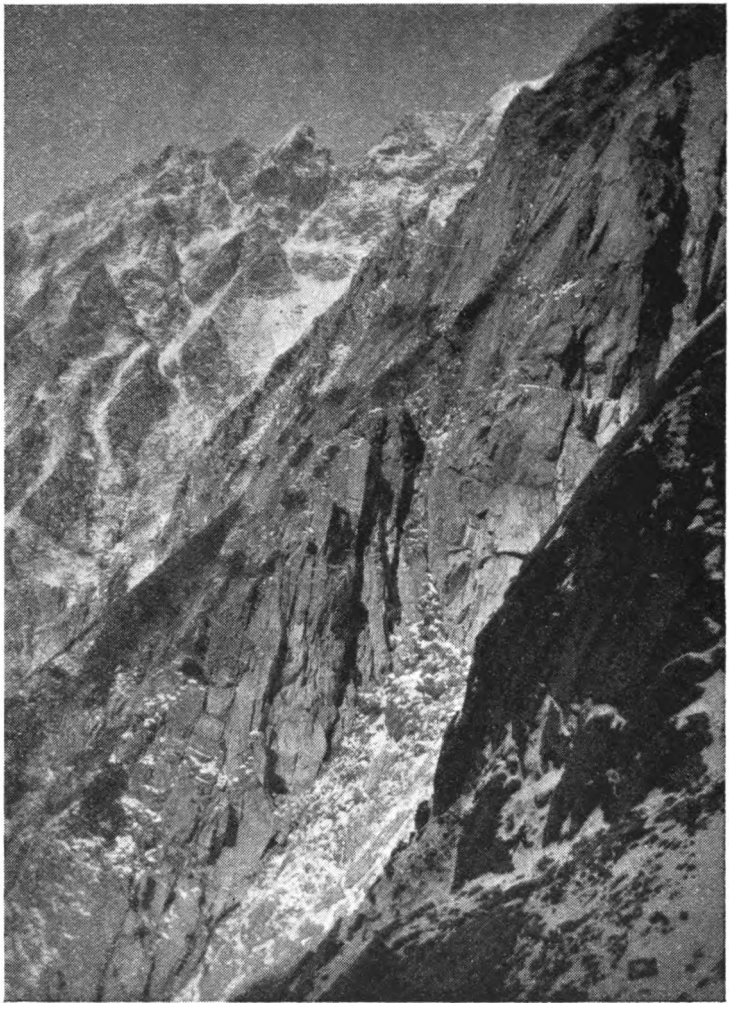
The Karasawa Cave! What a wonderful spot it is and what delightful memories its name recalls in the story of our



CLIFFS OF HODAKAYAMA.

mountain climbs! Our disappointment was therefore all the more bitter when we found that the splendid prospect of rock and snow was completely blotted out by clouds. By degrees, however, the rain ceased and the clouds began to disperse,

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and as we warmed our frozen bodies at the camp fire and changed our sodden clothes, our spirits at once revived. It was an immense relief to get some hot tea, and over it to be able to exchange mountain memories in comfort. Towards evening a strong breeze sprang up, sweeping aside the dark clouds and disclosing wave upon wave of peaks and ridges in endless succession.

Westwards appeared Haku-san, and even the peaks of the far-off range of Suzuka. In the deep valleys between the purple ridges, white clouds lay motionless. To the N. the Sea of Japan beyond the Noto Peninsula was seen glowing in the glory of the dying day, while to the S.E. the summits of Asama-yama, Myōkō-zan, and the Koma-ga-take of Shinano lifted their massive heads above the clouds. What a grand and glorious panorama it was! I could not help feeling how fortunate a mountaineer is to have such experiences. I took a photograph, it is true, yet one could not but feel how inadequate it must be as a reminder of such a scene. Nature is on too vast a scale, and the camera is too mechanical. As I stood outside the hut in the keen air, I became absorbed in the boundless and perpetually changing beauties before me, and as I came back to myself I could do no more than exchange a few brief words with the guide Tsune, and these were only a mere repetition of one's sentiments of admiration of such a striking scene. From that moment the colours of the mountain forms underwent a change. When at length the sun sank behind the peak of Kasa-dake the air became penetratingly cold, and I retreated into the hut without delay.

The glories of the dawn of August 25 were as gorgeous as had been the evening of the previous day, when, at 4.50 A.M., we fared forth from the hut to follow the great ridge forming the boundary line between the provinces of Hida and Shinano. The weather was, at last, so fine and the route so full of variety that the expedition proved one of unusual interest and enjoyment. By the time we got to the peak of Minami-dake, however, after traversing Karasawa-dake and Kita-Hodaka, there was no further serious rock-climbing left to be done. Just below the top of Kita-Hodaka we had a scramble in a short, steep 'chimney.' It was not really necessary, but we did it for the sake of the amusement it afforded.

Now someone will say: 'What can there be amusing about such a proceeding? Isn't it much better to go straight up to the top and enjoy the view at once, without making such a toil of it?' Moreover, there may also be others who are

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inclined to inquire: 'Where is there anything of value or of interest in this climbing?' I regret to say I am quite unable to offer any convincing answer at all. Yet, as the true beauty of the mountains can only be fully appreciated by a mountaineer, it must be useless for those people to struggle up to a summit after long hours of toil who prefer to take a tram-car or motor car to visit their next-door neighbours, or who are content to travel hundreds of miles while asleep, and imagine there is nothing whatever in the world worth while besides money and honour. Of course one can never be sure of always having good weather when climbing. But our short existence in this present world, and even eternal life after death does not extend beyond the confines of this universe, and if this be so, then I want the opportunity of abandoning myself to communion with the heart of this illimitable universe—to meditate on it, and to attain to a state of harmony with the 'God' of the universe, even the very Ideal Itself. Mountaineering, therefore, is not simply a sort of 'fashion' set by society—which, after all, is but a form of vanity. It is a worthy toil with a moral significance, and may become a source of real happiness. The mountains themselves stand as symbols of Eternal Life and serve as the expression of a mighty Spiritual Being.

The arête running beyond Minami-dake resembles nothing so much as the ridge of a desert mountain. Moreover, a fog enveloped us, and the sun's rays penetrating it smote us with a heat indescribably fierce. Not a breath of air was stirring and this rendered it a veritable hell except when for a moment the mist lifted somewhat and afforded a little relief. The first part of the ascent to the top of Ō-Yari itself lay along an arête of shattered rock and I now became so thirsty that I was able to swallow down cup after cup of melted snow without a moment's pause. By 3.30 P.M. we were at the hut on the shoulder of Ō-Yari, but no sooner had we arrived than it started to rain. However, while we were drinking tea inside the hut it cleared so we went on up to the top without delay, and as we carried no rucksacks, were able to climb quite quickly. The evening was a very lovely one, and as I stood once more on the summit I was vividly reminded of the time when I reached the same spot four years ago. The shadow of Yari was thrown by the rays of the setting sun upon the triangular form of Jōnen far beyond the Ninomata ravine below us, and as the sun sank the shadow mounted upwards. In the depths of the distant valleys white mists were gathering, for in the mountains day dies earlier, and the lovely hues of

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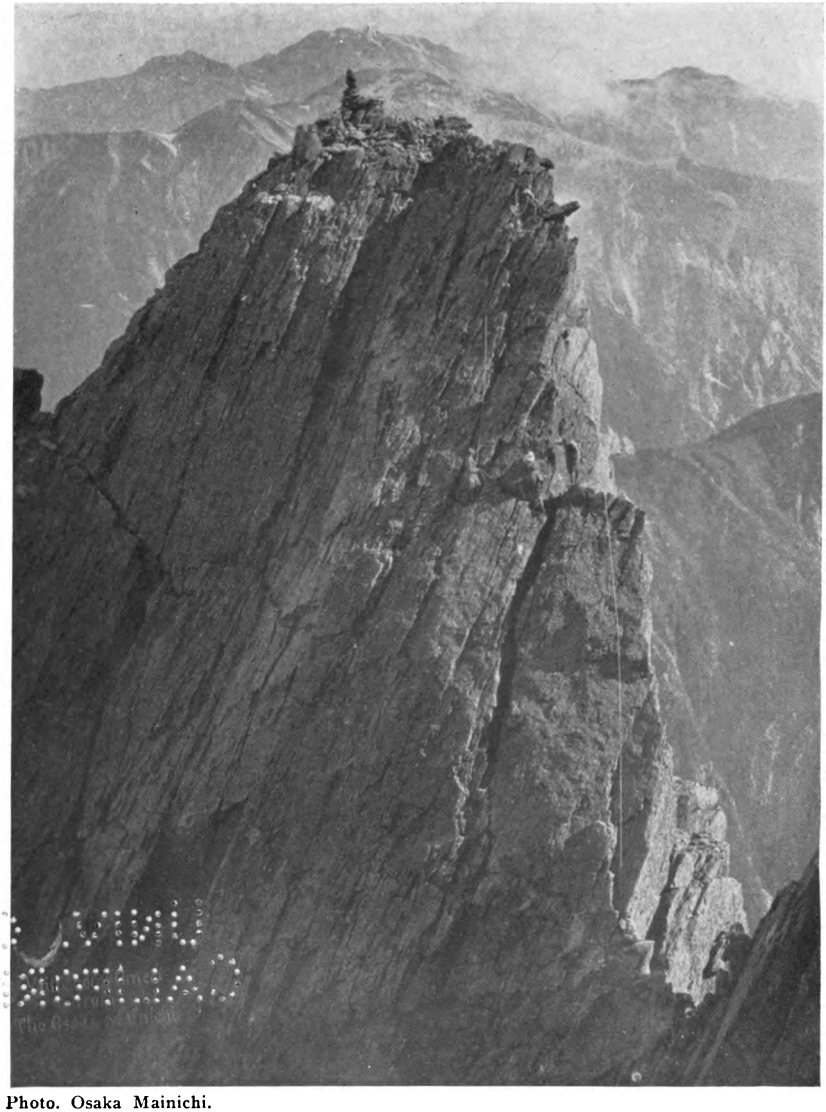

Photo. Osaka Mainichi.

KOYARI peak of YARIGATAKE.

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oncoming night were falling asleep in the embrace of the cool and quiet evening shades. As we at length started to descend our 'Spear Peak' the masses of white cloud rose more rapidly from below.

The Yari Hut is quite a spacious one, of two storeys, but it is a pity that there is neither a stove nor fireplace, and somehow it gave me the impression of a place quite different from what one usually associates with the mountaineering world.

Still, at daybreak on August 26, I couldn't help feeling how lucky we were. It was a glorious morning and exactly the kind of weather for our scramble on the peak of Ko-Yari, which was really the chief item on our programme. In difficult rock-climbing, while one man is securing a safe foothold, the others should not move; consequently, the time spent in waiting is apt to be rather tedious, so we can hardly call it enjoyable, no matter how hard we may pretend, when a bitterly cold wind is blowing! The details of the climbing on Ko-Yari I shall not go into, for they would be too technical. The cliffs of Ō-Yari that face Ko-Yari afforded an excellent auditorium for the several dozens of newspaper men, Prefectural and Forestry officers and porters, who occupied seats in it. We really felt as if we were sustaining the parts of 'star performers,' enacting a thrilling scene with Ko-Yari as its stage, and if we had charged a fee for admission, I am sure we should soon have been able to build a handsome new theatre. What a pity we were not in a position to act accordingly!

We returned to the hut for a short time, and then, with rucksack on back and ice-axe under the arm, we started on the traverse of the W. arête of Yari, in the direction of Sugoroku. But by this time the clouds were gathering and shortly after lunch a heavy downpour of rain came on. Most of the way lay along an uninteresting ridge, mainly overgrown with creeping-pine and scarcely a rock to be seen. My attention was attracted by scratches on the stems of some of the creeping-pines, and these I was told by one of the guides were due to the nibbling of hares in quest of food.

By 2 P.M. we were at the hut by the Sugoroku tarn, but its accommodation was so small, that when we ourselves were inside, the rest of the caravan were obliged to pitch tents for the night, close by. There was something very restful in the sight of the smoke gently ascending from the tents scattered about near this mist-wreathed Alpine tarn. In the hope of the weather clearing and giving us a chance of getting to the top of Sugoroku, we anxiously and often looked out from our tent.

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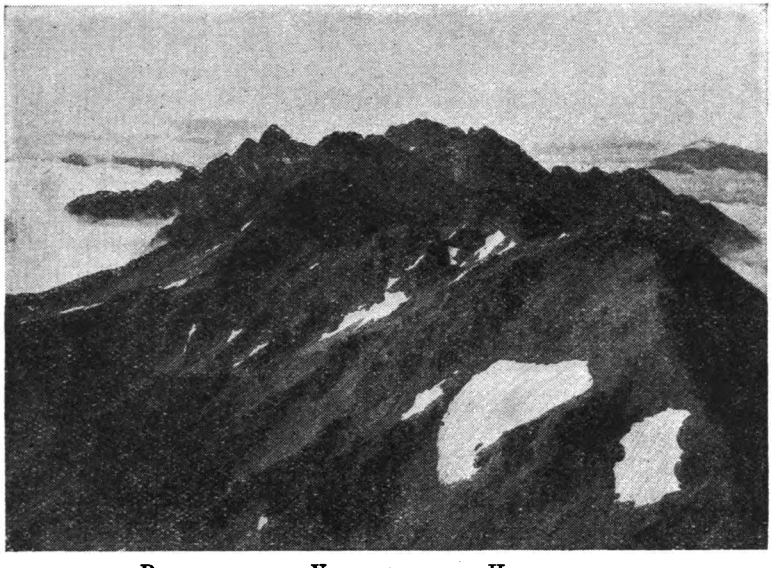
For a moment it would promise well, and then down would come the rain again in torrents. At length night fell, and then it was too late.

It was to threatening clouds that we woke on the morning of August 27. When I asked ' What do you think about the weather ? ' a very doubtful ' Well . . .' was the reply indicated by the pessimistic faces of the guides. Maki, the only optimist, led the way as we started forth. The peaks of the Hodaka-Yari range, on which we had spent such a pleasant three days, lifted



RIDGE BETWEEN YARIGATAKE AND HODAKAYAMA.

their massive heads on our left above the white clouds passing swiftly across them. By the time we had reached Nukedo and begun our lunch the sun once more broke through to greet us. This place resembles a cauldron of which one side has been torn away, and many rocks of curious and varied shapes were to be seen scattered about. Lovely alpine flowers of many colours—red, yellow, and blue—were blooming gaily on the green turf, as if to make the most of their short-lived beauty. Close beside them lay a patch of snow, still surviving its struggle with the fierce summer sun, as if to threaten them, and looking out anxiously for the reinforcements that were already on their way. Beyond the broken cauldron lip, a wonderful picture

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of Nature's own painting lay before our eyes in all its beauty. Yari and Hodaka stood forth in their unclouded splendour, although the peaks on either hand of them were hidden by intervening ridges.

By 1.20 P.M. we arrived at the hut on Kasa-dake, a spot commanding surely one of the most splendid prospects in the whole of the Japanese Alps. It stands on the side of the peak of Ko-gasa; the only drawback to its situation is the difficulty of getting water close at hand. As the day wore on we climbed Ko-gasa and found that the scenes so radiant in the gentle glow of the westering sun gained even added beauty by reason of the soft veil of gathering mists beginning to envelop them.

This last night of ours in a mountain hut was passed in peace and quietness—at least I wish I could truthfully have so written! But, as a matter of fact, someone started a heated argument as to the respective merits of 'clinkers' and 'tricouni,' and this, later on, gave way to a discussion on the subject of 'Life' which lasted for several hours.

The dawn of August 28, our last day in the mountains, was by no means clear, but it revealed just that kind of misty morning which makes one suspect that later it may warm up exceedingly. We said our farewell to the mountains from the top of Ō-Gasa, our last expedition, and then applied ourselves to the steep descent to Gamada.

I really think there can be no more trying track in the whole world than that from the foot of the mountain to the village. Such as there was lay first through the close-growing creeping-pines, of which there still remained so many roots and branches that it almost felt as if one were walking on springs. I have never yet felt any giddiness in really dangerous places, where, if my hold had given way, I should have been hurled to unfathomable depths; but I must confess that at this way down from Kasa-dake I had to 'throw up the sponge,' while, as for going *up*, I would never attempt it even in my dreams!

The way from Sugoroku to Kasa had been so easy and so enjoyable that the newly wedded Hayakawa had made up his mind to climb this peak with his bride as her first introduction to mountaineering. But on discovering for himself the horrors of this dreadful way down he quite changed his mind, to my great regret, for Kasa will now, after all, lose its chance of welcoming a fair visitor!

On reaching Gamada about noon, we went for our lunch to the inn kept by the brother of the guide Jyutarō. Gamada—

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what delightful memories the name recalls! The present village stands on the spot to which it was removed from higher up the valley after the disastrous storm. There are only four or five houses, but the hot springs still gush forth from the river-bed as before. We walked the two miles down to Tochio and there found a car which took us up to Hirayu, where, for the first time in six days, I was able to get a really good bath. Hirayu is a village in the heart of the mountains, but though there are ten or a dozen inns, not one of them has its own bath-room. Coming back to our inn after my bath, I opened a *shōji*, and there, beyond the green farm-fields down the valley, I caught sight of Kasa-dake, the very mountain on which, this morning, I was sitting eating hard bread ten days' old. Yet, now, here I was, seated on the soft *tatami*, clad in a *yukata* (bath-gown), drinking tea and indulging in pleasant recollections of past experiences. What a transformation scene it was!

The following day we drove out to Takayama, whose loyal inhabitants call it a small Kyoto. Here I spent a busy afternoon in being introduced to various places of interest. At the eastern foot of the mountains encircling the place are many fine temples, and near them the river Miyagawa, which might be likened to the Kamogawa in the real Kyoto and runs through the middle of the town, whose streets cross and recross like the divisions of a chess-board.

One of the domestics at our inn chanced to remark to me, with a note of sadness in her voice: 'My boy, also, was fond of the mountains and used to go climbing every summer.' Then another, sitting by her side, added sympathetically: 'Yes; what a sturdy lad he was, but . . .' There was such sorrow in her voice. Perhaps it made her think of her beloved boy, now dead, as she saw me in such high spirits returning from the mountains, and the livelier I grew, the sadder must have become the memories it recalled of him. And yet I could think of no fitting words of comfort to offer her. What sorrows this life of ours does hold!

And so, at last, I come back to the noisy capital! One day a photographer who had been with us in the mountains brought me some of the photographs he had taken. Speaking of his experiences he remarked that he had never previously climbed any hill higher than Atago-yama [a sort of Primrose Hill in Tokyo]. 'I see,' he added, 'that a mountain climb cannot be achieved by any mere tricks. Success can only be won by making sure of each successive step of the way. That is the

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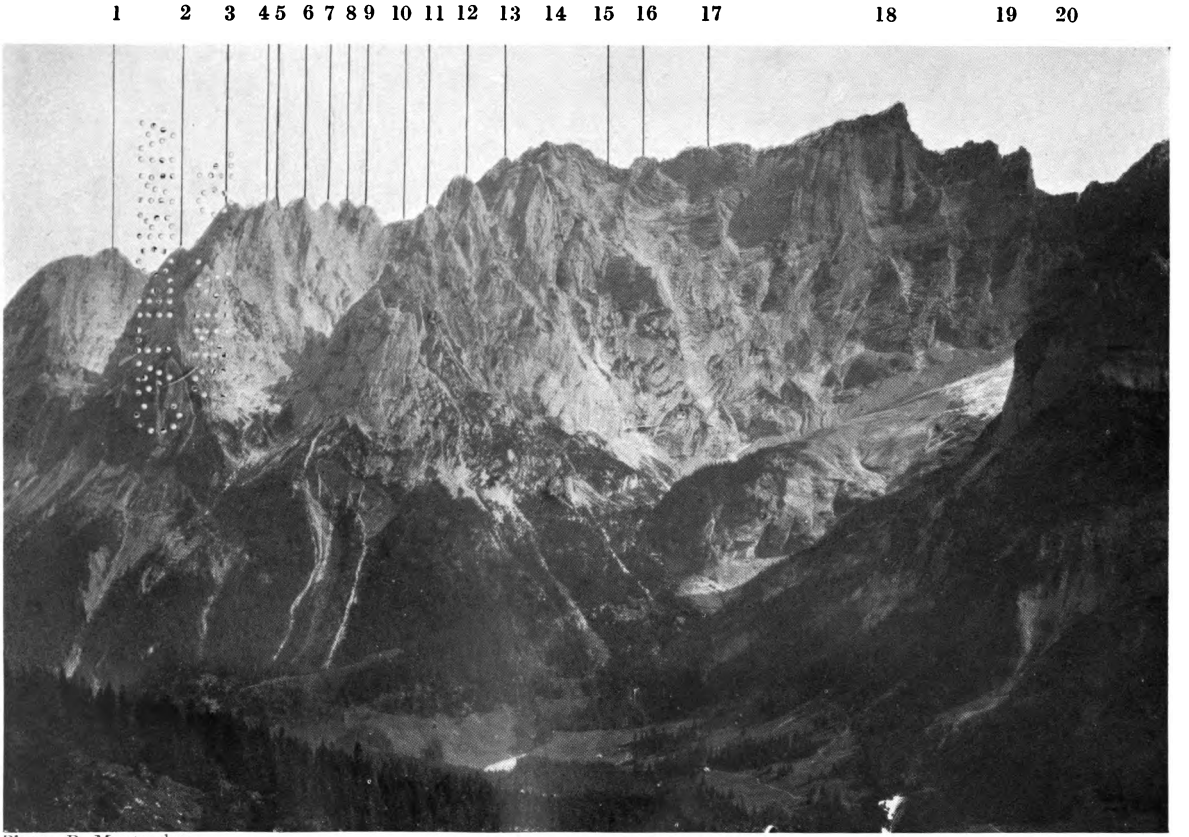

Photo. P. Montandon.

ENGELHÖRNER from above ROSENLAUI.

(For names corresponding with figures, see end of article.)

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way I should like to go through life, never forgetting the moral of it all.'

'This,' I thought, 'is the lesson taught by the mountains to one who had hardly known anything about them.'

I wonder if he is still keeping that lesson in mind?

[The foregoing article was written in Japanese by H.I.H. The Prince Chichibu for the magazine circulating among the Imperial Princes of Japan, entitled *Chikaki Mikaki*, i.e. 'Near the August Enclosure'—an ancient title of the members of the Imperial family circle. The technical details of climbing are purposely omitted from this account of the Prince's expeditions, the translation of which we owe to Messrs. Samitarō Uramatsu, A.C., and Walter Weston.

Glossary of some words used:

Kawa, Gawa	= river.
Yama, San	= mountain.
Take, Dake	= peak.
Ō	= great, higher.
Ko	= small, lower.
Hashi, Bashi	= bridge.
Shōji	= the sliding paper windows of a Japanese house.
Shōyu	= a very popular sauce, 'soy.'
Tatami	= the thick straw mats on the floor of a Japanese room.]

Concerning Mountains: Die Engelhörner.

By the late Miss GERTRUDE BELL.

(Reprinted from the *National Review*, December 1901, by kind permission of Mr. Leo J. Maxse.)

OF all perverse passions, that of the mountaineer is one of the most inexplicable. Not he, the hardy peasant, chamois hunter, dweller in the hills, who would seem to have come into the world with hands more prehensile than those which evolution has allotted to us in this topmost age of time, with feet already shod in the hob-nailed boots with which he

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stumps the rocks and clings on to the slopes—it is not he whom I need justify in the eyes of city folk. He is a part of his surroundings, an inseparable attribute to the brilliant picture, the human interest in the foreground, necessary to mark the aloofness of grim peak and shining snow. It is fit that he should regard the mountains as his father and mother, since the reasonable man will allow that they are indubitably the source of his bread and butter and the bit of hard cheese on top. But we who leave our beds to lie upon straw, our ease for days of unrewarded toil, and exchange our well-appointed meals for a dry prune and a drier crust, what sense is there in our folly? Let me at once disarm criticism: there is none, or at least there is none which would appeal to a judge were he not predisposed in favour of the defendant. For which reason the self-respecting mountaineer makes occasion from time to time to slip a persuasive word into such ears as will hear, sometimes taking cover under the much mishandled robe of science, sometimes masquerading as the observer of men and manners under strange conditions, sometimes as the artist, discoursing of colour values, of purple and of orange on the snows. 'See now!' he says, 'we, too, take an interest in matters appertaining to the reason and the imagination; we are neither fools nor mad: such and such things we seek in the hills, as your Honour seeks them in other places, but it is the same search.' And all the time he hugs to his heart some memory of the last labouring step up the long ice slope, of the desperate reaching out into the void round an overhanging rock corner—moments when the brain throbs with an almost uncontrollable excitement and a glowing ardour which would ennoble any pursuit for him who had felt it.

'Return, Alpheus!' I am wandering from the argument, which is that we are only partly fools, like all wise people, and in the intervals of our madness we have time to take stock of the universe, that high-pitched universe into which our efforts have carried us, which is the same and not the same as that which lies 10,000 feet below. The same, but clearer, the shadows more strongly marked, the lights brighter as befits the snows; even the character of the actors therein is simplified to some salient virtue or vice, so that you might christen them, like the personages of a new polyglot *Pilgrim's Progress*, Mr. Foolhardy, Herr Durstig, Monsieur Fanfaron. But all alike are actuated by a warm sense of brotherhood, of comradeship; they are at peace with a world which lies 10,000 feet below, and goodwill reigns on the mountain tops.

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Such is the case for the mountaineer, the rest lies with the judge—may he be merciful and well-inclined!

You need not go farther afield than the much-trodden Bernese Oberland to find new peaks and new adventures; it is unnecessary to go farther in search of Alpine beauties, for in no region of mountains is there a greater variety of gorgeous scenery. Snowfield and rock would seem here to put on their finest aspects; a master hand hollowed out the thin shell-like ridge of the Schreckhorn and raised the pinnacle of the Finsteraarhorn, spread the white carpet of the Aletsch Glacier, and planted pine and willow gentian down the eastern slopes of the Great Scheidegg. No wonder (but great cause for thankfulness) that to the pioneers of Alpine adventure the Oberland was one vast magnet, drawing them irresistibly upwards. To its attraction we owe such pages as are to be found in Mr. Leslie Stephen's enchanting book, or the earlier numbers of the ALPINE JOURNAL, epics of mountaineering recounting the exploits of eponymous heroes whose names are scattered over peaks and passes, and whose deeds loom stupendous through the mists of tradition, which gather as quickly as the mists of autumn round a mountain side. Theirs is the real crown of romance; we know too much nowadays; we have too many appliances. With us climbing is a business, but with them it was high-spirited play in a world which was all new, on snows that were all untrodden and peaks all virgin. Moreover, there are, alas! few of us who can beat their ice-axes into pens gifted with such magic powers of narration, jest and description. No; lovely though the Oberland remains, it is not what it was in their day. Railway lines have filled the valleys with a hateful crowd of tourists; the lower peaks are crowned with gaunt hotels; the debauched peasant hawks highly objectionable wares of local manufacture down every village street, or desecrates for hire the exquisite gorges with the horrid echoes of his horn. Matters improve somewhat above the snow line; a few polytechnic travellers fall by the way and return to the big hotel, but a truly lamentable number reach the hut and disturb your sober rest with gossip and laughter half into the night. Sometimes—and this is a favourite sport—they come up by day while you are ranging the peaks, burn your wood, drink your tea, and eat the egg you had prudently left against the afternoon, so that returning (as I did from the Schreckhorn) you find the cupboard bare. And if you are torn by the ungenerous appetite of the mountaineer, you find but small satisfaction from their entry

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in the log-book of the hut, the ink of which is scarce dry—I quote from my memory, on which the words were graven by the style of hunger—'Nous sommes montés au refuge sans guides! (*i.e.* by the mule track). Vue splendide mais quelle faim! Heureusement nous avons trouvé du thé!' I swear that a demon of malice seized the pen, but under this simple cry of gratitude is written in my hand 'Nota bene! C'était mon thé.' They are to be found, these breakers of the laws of God and man, even upon the highest peaks, the vastness of the eternal hills suggesting little to them but the advisability of taking cold collations at frequent intervals, the silence of the snows nothing but a vacuity which it is their duty to fill with the sound of voices, the prowess of the forerunners but ignorant and idiotic comparisons with their own guide-directed steps. I could find it in my heart to regret that the gallant Christian Almer, 'der Beste aller Führer,' as his Grindelwald epitaph says, ever cut an ice ladder up the fair cone of the Wetterhorn, when, following with pious steps his most present shade, I follow in the company of such as these.

Indeed, the Oberland has become the paradise of second-class climbers. Nowhere else can a peak with a great name and a sounding history be bagged so easily, provided the tourist be content to follow the usual route; and the best mountaineers have fled to Zermatt, to the Dolomites, and farther afield still. But mark the proviso. Just because the boldest have been crowded out and the district neglected by the most enterprising, therefore it is to-day more full of possibilities than any other part of Switzerland. Caravans stream daily through the summer up every peak, each following in the other's steps, and for years no new thing has been done. And what a roll of victories remains for the future!—the Jungfrau from the Jungfrau Joch,[1] the N.E. arête of the Eiger [2] (these are two of the four great impossibilities of the Oberland), the—but no! Let every man be the author of his own projects!

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[1] First traverse, taken in the *descent*: September 2, 1903. Mr. C. F. Meade, with Ulrich and Heinrich Fuhrer—Miss Bell's usual guides.

First *ascent*: July 30, 1911. Herr Albert Weber, with Hans Schlunegger.

[2] First *ascent*: September 10, 1921. Mr. Yuko Maki, with Fritz Amatter, Fritz Steuri, and Samuel Brawand, two previous *descents* having been recorded.

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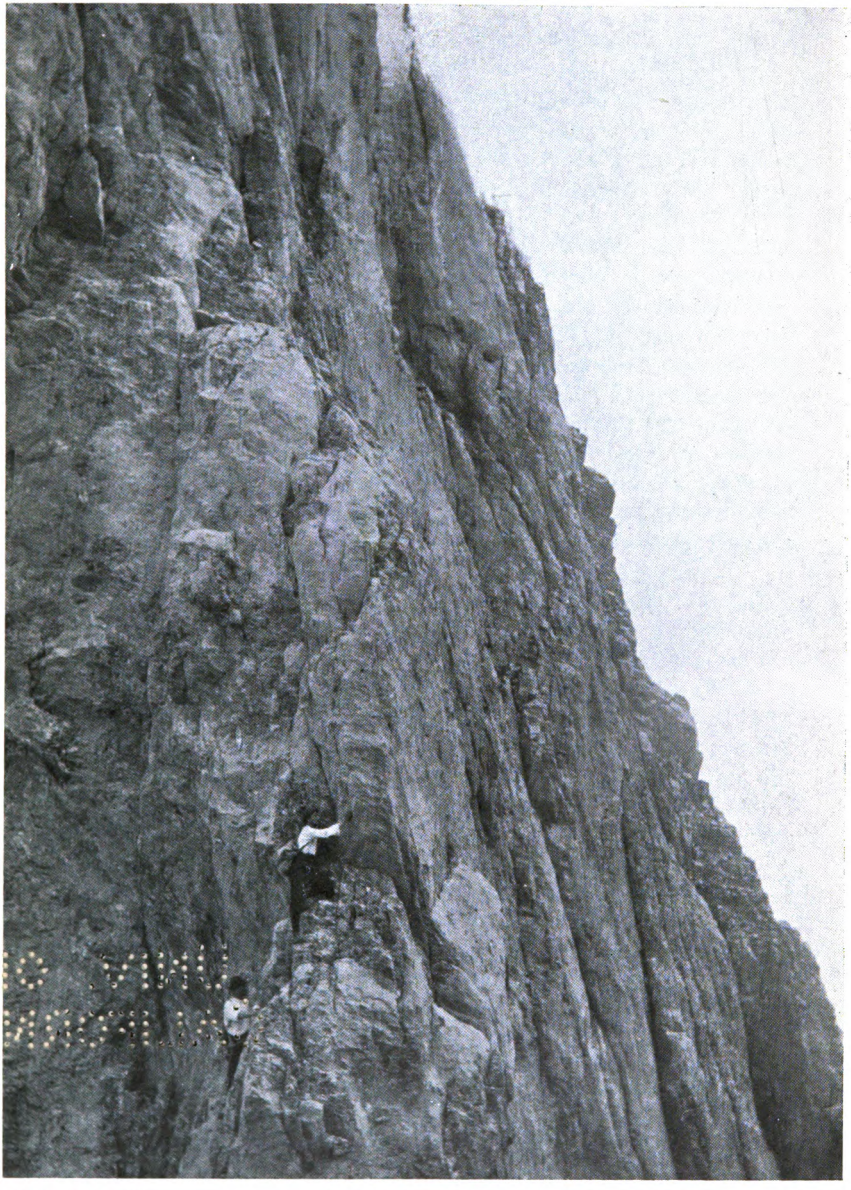

Photo. J. Martin.

GR. SIMMELISTOCK.
The "EGG."

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With these high matters I have at present no concern. My mind is turned towards a charming pine-set valley which runs upwards to join the blue ice of the Rosenlaui Glacier. The Reichenbach tumbles noisily through it; the steep slopes are like a fruit-garden of raspberry, strawberry, cranberry, and whortleberry; wood and meadow, even in late autumn, are full of the golden *ranunculus* and tufts of the gentian *asclepedeia*, which rivals in beauty of colour all its high-born sisters. To the right [3] of the glacier rises the great rock wall of the Wellhörner backed by the three white peaks of the Wetterhörner, to the left a twin chain of rocky heights, shouldering one above the other until they culminate in the Engelhorn, which gives its name to the double ridge. Whether it be that travellers in the Oberland think more of snow than of rock, or whether the neglect has arisen from the general stagnation of the district, the fact remains that in the very heart of the most popular corner of Switzerland these alluring peaks are almost unclimbed. I do not know who first ascended the Engelhorn; [4] it was not much of an exploit. Sir Seymour King made a pretty peak, known as King's Peak, in 1887, and Mr. Macdonald the Simmelistock in 1898—a fine sporting climb it is, worthy to take a place among first-class rock mountains—over the rest of the Engelhörner the wiseacres of the country shake their heads and murmur 'Es geht nit!' Such was the state of things when we found ourselves this autumn driven down from the heights by thunderstorms and heavy snow. We put up at the Rosenlaui Kurhaus (which I hereby heartily recommend) and determined that we would do what had been done and examine what there was to do, occupations which the lower elevation of the Engelhörner made possible even in bad weather. And this is a great point in their favour, and one which should be scored in gold against their name.

My companions were two Oberlanders, the first being one of the most skilful mountaineers I have yet come across. Bold and persistent, wise in council, cool in execution, Ulrich Fuhrer, unless I am the more mistaken, will go a long way towards

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[3] 'Right': as seen from opposite.—P. M.

[4] From Augstgumm: September 21, 1876. Mr. H. Seymour Hoare, with Johann von Bergen and Kaspar Streich.

N.B.—The Gstellihorn, the highest of the Engelhörner, was probably climbed as far back as 1836 by the geologists Bernhard Studer and Escher von der Lindt.—P. M.

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By courtesy of A.A.C., Bern.]

ENGELHÖRNER.

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meriting Christian Almer's epitaph—may the tombstone on which it shall be written be yet far from him! We had, to use his phrase (he speaks English after the manner of Oberland guides), travelled together before, and I had proved his daring and resourcefulness in many a tight place on the Aiguilles about Mont Blanc. The second, Ulrich's brother Heinrich,[5] who is made of the same admirable stuff, was reft from me at an early stage by the exigencies of the Swiss military service. He was replaced by one of a different character. The second Heinrich[5]—he shall be anonymous, honest man!—was under all circumstances inordinately cheerful, with the cheerfulness of a child that takes no count of the difficulties before it. He was willing to a degree that was positively ridiculous—if I inquired solicitously after his case under an unusually heavy load he would reply with scorn (he had no word of the English except 'Ahl raight!') 'Ich trage Alles, bis ich zu Grunde gehe!' He was filled with the deepest respect and admiration for the prowess of Ulrich: 'Der Beste den wir haben,' he would murmur as he watched him struggling into apparently inaccessible places. His spirits bubbled up like champagne while we laid our projects and sank down again like the flattest of uncorked bottles when the time for the setting of teeth was upon him—but only for an instant! Once we had persuaded or pushed him over the difficulty he would be laughing and singing again, with no thought for the return journey or for what would next meet him in the unknown towards which our faces were set. To do him justice he was a guide well acquainted with, and qualified for, the snows and ice walls, and easy arêtes up which he has dragged some hundreds of tourists, but with no knowledge of the finer rock work and the more delicate complications of mountaineering. In particular, the mysteries of the extra rope were unfathomable to him; he could never bring himself to trust in it completely, though it were slung over a rock which was an integral part of the mountain itself. Half laughing and half exasperated, I have watched him taking his slow course down a couloir, when the snow was falling and every moment precious, the double rope coiling itself into unimaginable knots round every part of his person, his cheerful rosy face pinched up into an expression of agonised anxiety. Once he positively refused to proceed in a place where it was impossible to turn back. 'I' kann nit!' he pleaded, looking up at me helplessly. We were

[5] See *Correspondence*, *A.J.* **40**, 452 *et seq.*

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all hanging on the face of the rock and Ulrich himself was, as I well knew, not too firmly placed, so I replied stolidly that go he must and suited the action to the word by slipping down into his niche and shoving him off into space. He had the extra rope in his hand, so that space in this instance was a strictly limited term. Considering that he could feel no security in the ropes which we knew to be as solid as an iron balustrade, his courage in allowing himself to be tempted into such positions rises almost to heroism—may he travel many a summer, stagger under the weight of many a rucksack, and crack his harmless joke on many a peak, but not with me, though I retain a warm feeling of friendship for him and of appreciation for his engaging character! He was interesting as a study in human emotions, but his place was not on the Engelhörner.

Between the double range there runs a narrow valley called the Ochsenthal. It is not more than a few hundred yards long, but lying as it does between almost precipitous rocks, crowned on either hand with a cock's comb of serrated peaks, it presents an aspect of Alpine grandeur out of all proportion to its size. It rises at the southern end to piles of débris, heaped up by the ceaseless ravages of time, and is closed by a formidable rock wall, some 500 or 600 ft. high, at a guess,[6] and of the same length, forming a wide saddle between the ranges. It did not take us long to decide that this saddle was the key to the situation. We observed it from below, we observed it from above, we photographed it and covered it inch by inch with our glasses, we took discouraging counsel with the inhabitants of Rosenlaui, till there was nothing left to be done but to climb it.

Accordingly, a certain stormy morning found us gathered in the Ochsenthal, rope and resolution in hand—our ice-axes we had left behind, having no need for them. After a little search we hit upon a place where the rocks descended as steep as an ice slope on to the moraine, but were scored with a thousand tiny water runnels, two or three inches deep, which broke the even surface and gave the climber something to swear by. It looked unpromising, especially as the first slow flakes of snow had begun to fall as Ulrich laced up his string-soled climbing boots, but it was enough, and an hour's breathless work—in which Heinrich II. distinguished himself by his

[6] The Gemsensattel is about 470 *metres* above the Ochsenthal. —P. M.

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excellent performance—brought us over our difficulties and to the mouth of a large cave, such as is frequently to be met with in these hills. The snow fell fast, the clouds moved quickly above us, the cave seemed to indicate breakfast, and its suggestions were backed by those of our appetite. Once inside, Heinrich II., with delighted cries of amazement, pounced upon a horned skeleton, and proceeded to develop marvellous theories to account for its presence. How that ill-starred sheep came down over the rocks above—for it certainly could not have come up from below—I am at a loss to imagine, but I am very sure it was not an antediluvian monster, nor yet one of the fabled steinbock, which have vanished long since from the Engelhörner, and I am prepared to lay odds against its having been carried up by an eagle for the purpose of feeding its young. Pursuing these and cognate speculations, we finished breakfast. By this time the snow fell a trifle less heavily; Ulrich scanned the heavens and hesitated. 'It is not fit for making a new climb,' he said, 'but—we will proceed!' And muttering something about 'Verfluchtes Wetter!' he sallied forth. His decision was right, the thing was practically done, and another hour of comparatively easy climbing landed us on the saddle. We put our heads over the rock and saw, close to us, a herd of chamois grazing on the scrubby tufts of grass. The whole saddle was covered with well-marked chamois paths, for they breed there undisturbed, wherefore we christened it the Gemsensattel, and turned back down the rocks, which were now running with torrents of water. A small cataract dashed angrily down every couloir into the sleeves and necks of our coats as we swung ourselves down with much circumspection. When we reached the cave, I need scarcely say that Heinrich II. insisted upon stuffing the sheep's skull into his knapsack, and this valuable trophy we carried with us to the hotel, after which I saw it no more. The smooth rocks were very troublesome in the wet. We had to cut a groove with a hammer and chisel in order to make a knob round which to sling the extra rope, by the aid of which we landed ourselves, dripping but contented, in the Ochsenthal.

Next day[7] dawned fine. We hastened out before the sun was up and retraced our steps to the top of the Gemsensattel with considerably more ease and celerity owing to our greater

[7] September 7, 1901.

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knowledge. We had conceived a double project. The first was to ascend the [Gross] Engelhorn by the N.E. arête. It had been borne in upon us that this was possible when we were sitting one morning upon a newly conquered peak in the eastern ridge of the Engelhörner; and while we were discussing the way, we had caught sight of a herd of chamois on the Gemsensattel below us. By dint of shouts and jödels we had induced them to hurry up the rocks and, watching their movements, had made out the path we should follow. Our second project was to make the peak at the southern end of that same eastern [? northern] [8] ridge; we had christened it beforehand the Klein Engelhorn, and to it we addressed ourselves first. Climbing up a spur [9] we got it full in view, and very forbidding it looked. A short arête led to a point almost in the middle of the face; below, the rocks dropped sheer and as smooth as glass; above, they were not far removed from the perpendicular, but up them the route certainly lay. We edged our way along the arête and traversed some 40 ft.—a ticklish business—across the southern face; then we turned upwards, seeing a possibility of footholds, and ascended for a distance of about 60 ft., trying each hold before trusting to it, and abandoning many, for the whole mountain was rotten. At length we found ourselves at the foot of an overhanging rock which bid fair to stop us. On the righthand side, however, there were two auspicious cracks, and between them a big perpendicular stone with a little ledge on the top, sloping outwards. Ulrich, standing on the shoulders of Heinrich II., examined it, and came down. 'It is too high,' he said, 'unless you can come up too.' Accordingly I took a strong position on the broad shoulders of Heinrich II., Ulrich climbed up by the rock and our bodies and planted himself firmly on the back of my neck, and I felt him fingering up for the hold above him. Presently he remarked, conversationally: 'I do not feel very safe. If you move, we are all dead.' I assured him that I was as if turned into the rock itself, and he went on. As his foot left my shoulder I put up my hand and gave him a parting shove. It was just enough; in another minute he was on the ledge, and shortly after he was peering down

[8] There is no 'eastern' ridge in this part of the Engelhörner, except perhaps the short summit ridge of the Urbach Engelhorn. —P. M.

[9] *i.e.* the Gemsenspitze—see photograph of the Klein Engelhorn thence.—P. M.

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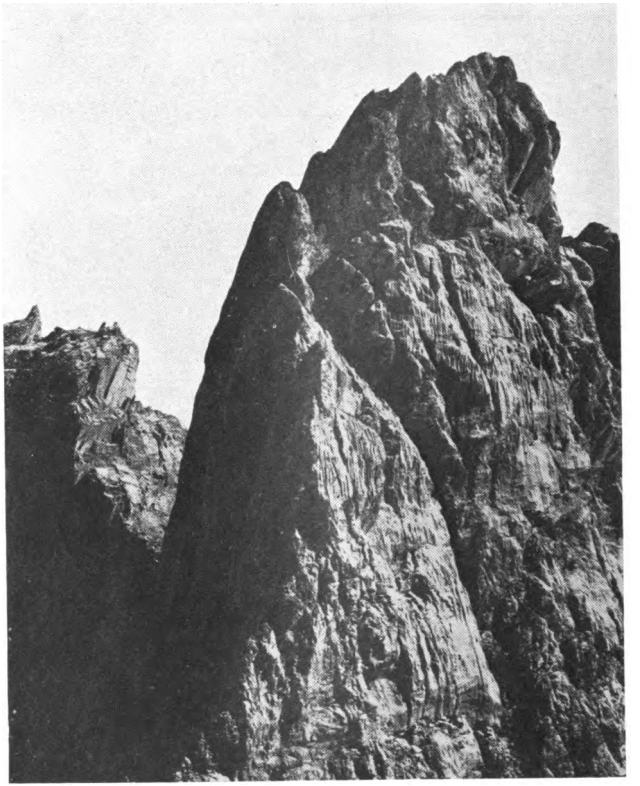

Photo. A. Mottet.

KL. ENGELHORN from GEMSENSPITZE; MITTELSPITZE to the left.

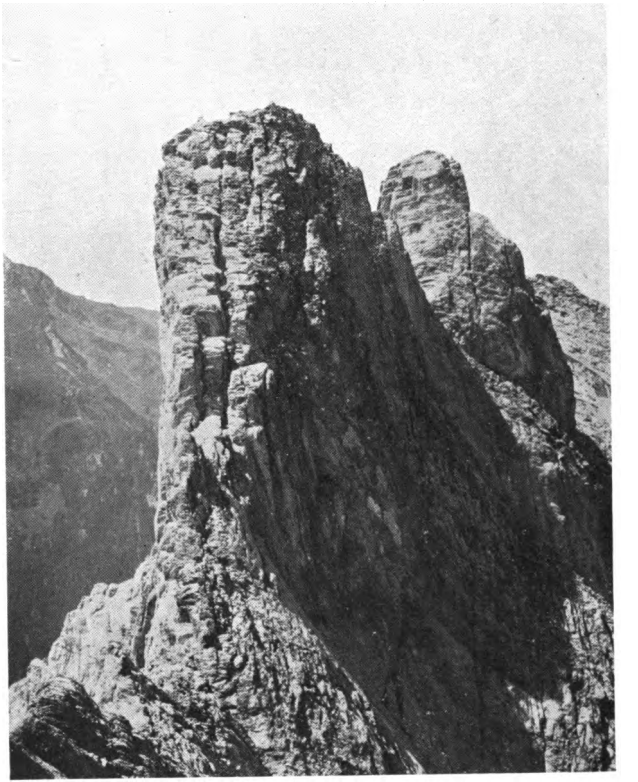

Photo. A. Mottet.

ULRICHSPITZE with GERTRUDSPITZE in background from KL. ENGELHORN.

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Photo. A. Gysi.

The 16 metre "rappel" on KLEIN ENGELHORN.

Photo. P. Montandon.

"Egg."

Macdonald Chimney.

GR. SIMMELISTOCK from N. side of VORDERSPITZE.

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on us from a commodious gap in the final arête of the mountain. I followed—without ease—and we disposed ourselves to give Heinrich II. a helping hand. But the champagne of his temper had been uncorked too long. He could not, no, he could definitely *not* tackle that rock, not with a hundred ropes. There is a point beyond which it would be foolish to drive an unwilling spirit. We knotted the extra rope round a convenient rock, let down the ends to him and bound him, like a second Prometheus, to the crag. And so we left him and proceeded on our way, made the peak [10] not without labour, built a cairn and returned, to find that Heinrich II.'s spirits had bubbled up again, for he was singing softly to himself as he carved our names with his hammer and chisel in the rock. It was a tiresome business getting down, and we ended by leaving our good little extra rope in a vicious crack which caught it and held it like a vice. 'And *I* won't go up and fetch it!' said Ulrich with decision; so it swings there still. Blessed is he who returns to the Gemsensattel and eats a well-earned lunch!

The second part of our programme gave us no trouble, the chamois path proving a good deal easier than it looked. This was not the only surprise it offered us. About a third of the way up the arête, we came upon an old cairn and, search as we would, we could find no trace of the identity of the builder. After some thought Ulrich evolved the following theory: In his village of Innertkirchen, the roofs of which we could see from where we stood, there dwelt, when he was a boy, a venerable chamois hunter, Hans Chlek [? Chleck Hans] [11] by name, who was credited with an almost unholy knowledge of the Engelhörner. One of the legends concerning him was that he had reached the slopes of the Engelhorn itself by climbing straight up the rocks from the Urbachthal—a feat which has certainly never been performed since. Now it was just possible that this might have been the cairn he built to commemorate his achievement. I hope, for the sake of dramatic completeness, that it is; the more prosaic—and more probable—explanation is that it was the work of a party coming over the Engelhorn from the southern side, who were turned

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[10] The Klein Engelhorn.

[11] A nickname. *Chleck* is a 'patois' word and means the cracks in the hands of a man who has done much outdoor labour in the wet.—P. M.

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back at this point by the extremely precipitous nature of the rocks below.

Having reached the summit of the Engelhorn,[12] we proceeded in a leisurely manner down the rocks on the southern side—all too leisurely, as it proved, for the afternoon was wearing on and by the time we reached the alp at the foot of the rocks it was nearly dark. Immediately below us were some chalets,[13] the midsummer chalets of the shepherds of Innertkirchen, but they were already deserted, the cattle having descended to the autumn pastures. Now our souls thirsted for the milk pails of habitation and we resolved to strike down the alp in search of the lower chalets. First, however, we called a halt at the bottom of the smooth rocks by a brawling stream, from which we drank the draughts of those who have been all day on short commons.

> A moment's halt, a momentary taste
> Of being from the well within the waste

—I quoted to myself sentimentally—

> And lo ! the phantom caravan has reached
> The Nothing it set out from—Oh, make haste !

But Heinrich II.'s thoughts were set to a different measure. 'Dass hab' ich lieber als dort üfi !' said he, referring with characteristic cheerfulness to his shortcomings, as he raised an empty jam pot to heaven. I looked up in the direction to which he pointed, and saw dimly through the dusk the last of the many chamois which had fled before us on the hillside. It was standing with all its four feet together on a pinnacle of rock, and gazing a farewell upon us in the gathering darkness. As I looked it leapt up and disappeared.

We were not, however, destined to reach the Nothing we set out from for several more hours. Naturally we missed our path across the alp and wandered under the stars, the marmots crying round us like lost souls, till near ten o'clock before we hit upon a tiny chalet,[14] nestled against the mountain side. It

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[12] The route described to the Gross Engelhorn is hard to understand. The party had to pass first over the Urbach Engelhorn of which no mention is made.—P. M.

[13] Augstgumm.

[14] Laucherli Alp.

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Photo. P. Montandon.

ENGELHÖRNER, East side, from saddle between HOHJÄGIBURG and VORDERSPITZE.

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ENGELHÖRNER (Mittelgruppe) from KASTORSATTEL.

Photo P. Montandon.

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was empty, but an oil lamp burnt within and shone upon a long row of brimming milk tins ranged by the wall. These and a wooden table, a bench and a bunk occupying one side of the hut, were all it contained. We had just had time to look round us when the shepherd and his hinds, three stalwart bearded men, pipe in mouth, appeared in the doorway, and stood staring at us in bucolic amazement till I gave them the 'Grüss Gott!' of salutation. Having ascertained that we were human beings like themselves, and hungry human beings forbye, they set to work to prepare for our entertainment. They blew the wood fire into a blaze, and boiled thereon a huge cauldron of the best milk in the world, on which we supped, and thanked the rock and mountain gods for the peerless repast. And then I climbed up a ladder in the outhouse and lay down upon the new hay, under the roof, and knew no more till dawn, when the pigs, my near neighbours, grunted aloud below me, seeking to be let out. Enchanting, most enchanting, was the Alp in the grey dawn. The goats came tinkling down the pastures, looking somewhat blear-eyed and dishevelled after a night out on the rocks, like dissipated persons returning from a ball by daylight, and crowded round the shepherd, licking his hand, when he came out to announce that coffee was ready.

I offered our laconic host my thanks and a five-franc piece, both of which he received in embarrassed silence, then flung his wooden milking pail over his shoulder, and with a muttered 'Adieu!' set off at racing speed after his cows. But we ran down the alp and through wet September woods to Innertkirchen in the crocus fields, where I was entertained at lunch by Ulrich's grey-haired father in the family chalet, the date of it 1749, the woodwork exquisite with a fine finish that was almost Japanese, and polished with age. As I munched bread and cheese and bilberry jam I heard tales of the days before climbing, when the old man had journeyed with English families of distinction, in their own travelling carriage, and led them over tiny passes, ropeless and fearful.

So we returned to Rosenlaui, not without glory, as appeared a few days later from that veracious journal, the *Bund*, wherein our hairbreadth adventures were chronicled in terms that took even ourselves by surprise, and I, with many notes of exclamation, was alluded to as 'die bergsteigende Miss!'

[For details of the Engelhörner see *Club Führer durch die Engelhörner* and Supplement, by the A.A.C., Berne.

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The following are Miss Gertrude Bell's first ascents or new routes, the original names, as given by her, being employed :

	Gerard's Peak [15]	August 31, 1901.
Mittelgruppe	Vorder Spitze	September 3, 1901.
	Gertrude's Peak	
	Ulrich's Peak	
	Mittel Spitze	
	Klein Engelhorn	September 7, 1901.
	Gemsen Spitze	

I am much indebted to Monsieur Paul Montandon for kindly annotating the paper.—*Editor* ' A.J.']

With reference to the title-illustration to this article, ' Engelhörner from Rosenlaui,' the following are the names of the peaks corresponding with the figures :—

1 = Jägiburg.
2 = Point 2426 m.
3 = Hohjägiburg.
4 = Vorderspitze.
5 = Gertrudspitze.
6 = Ulrichspitze.
7 = Mittelspitze.
8 = Klein Engelhorn.
9 = Gemsenspitze.
10 = Gemsensattel.
11 = Kastor and Sattel.
12 = Kingspitze.
13 = Urbach Engelhorn.
14 = Gross Engelhorn.
15 = Untere Engellücke.
16 = Sagizähne.
17 = Aebnisgrat.
18 = Gross Gstellihorn.
19 = Klein Gstellihorn.
20 = Dossensattel.

The First Direct Ascent of Mont Blanc de Courmayeur from the Brenva Glacier, and other Climbs.

By T. GRAHAM BROWN.

(Read before the Alpine Club, November 6, 1928.)

I SUPPOSE that love-of-mountains (like any other kind) may come at first sight, or by long acquaintance ; or that it may come by proxy—as love came to many a prince in old times. We can imagine how eagerly he uncovered the portrait of that

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[15] ' Gerard [Collier's] Peak,' August 31, 1901, *i.e.* Kastor, the higher and S.E. of the ' Twins.'

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future wife whom he had not seen; how he wondered if the artist had been too enthusiastic; how he overhauled the poison cabinet—in case . . . Love by proxy is not uncommon with us; but we have this advantage as we turn over a photograph in the dark winter months, or read of old climbs—we know that the real thing will be finer than the portrait.

I must confess openly that I became devoted to the South side of Mont Blanc before I had seen the mountain. One of the small accidents of life put Mr. Mason's 'Running Water' into my hands. Fascinated by his account of the Brenva route, I turned to my Baedeker. The Brenva Glacier was marked with what obviously must be an ordinary tourist route; but a 'Mt. de Brenva' lay to the E. of it. There, on one of its buttresses (I thought) must lie the Brenva route and the famous ice arête. On this false basis I manufactured a mountain paradise, and climbed it in my dreams.

But another accident, the breakdown of a motor car, introduced me to the reality under conditions which made it almost unreal. In 1926 Brocklehurst, Herbert, and I had traversed the Grand Combin and Mont Vélan, and late on the second day had arrived at the Great St. Bernard with the incomparable view from Mont Vélan still vivid before our eyes. On our descent into Italy next day we were delayed by this small mishap and had to travel up to Courmayeur by the last motor-bus from Aosta. It was late, a clear night and a full moon, when we had our first near view of Mont Blanc—and the reality was more glorious than any dream. The great mountain looked inconceivably remote in the bright moonlight, and yet welcoming; urgent to be climbed by all its ways, and to be seen from all its sides.

At Courmayeur we joined A. E. Barker; but I will not weary you with details of the uneventful traverse by the Dôme route which was our first introduction to Mont Blanc, save to speak of the wonderful sunrise we witnessed. We were early on the Dôme du Goûter, and there the sunrise caught us. We saw the great dark shadow-cone with its iridescent fringe in the West over France. More fortunate than Leslie Stephen, from this place we could see both the mountain and its shadow. It is a trite saying that we are pawns in the game; but here, at the commencement of the gambit, we stood in the middle of the board at 'King 4' and could see on either hand the black Queen and the white. I have now had the good fortune to see the shadow both at sunrise and at sunset from Mont Blanc, and this sunrise was incomparably the

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greater sight. The huge cone fell on to France and gradually huddled up to the foot of the mountain as if shrinking from the alien plains.

That summer Brocklehurst and I said good-bye to Mont Blanc from the top of the Tour Noir—a fine view, but not one of the ' three.' For having fallen under the spell, each victim must not only climb the mountain but must see it from its three great vassal peaks—the Aiguille de Trélatête, the Aiguille Verte, and the Grandes Jorasses—the three classical points of view in the Mont Blanc Chain.

I would dearly have liked to linger with you on these splendid peaks to-night ; but evening has fallen, time is brief, and the ascents are long. You must forgive me if we move quickly.

Aiguille and Col de Trélatête.

The evening of August 12, 1927, found E. S. Herbert and me with Christian Jossi and Peter Bernet, at the Cantine de la Visaille ; next morning we set out at 2.15 for the traverse of the Col de Trélatête. Our way led us past the Chalets de l'Allée Blanche and we arrived on the col at 10.30, whence we ascended the central summit of the Aiguille. The termination of this ascent must be one of the finest in the Alps—comparable in many ways to the last step through the corniche of the Wetterhorn. I say ' must be ' advisedly. As we came up the last few feet, a great view of nothingness burst upon us—nothing, that is, but a bank of mist, until our eyes swept down and saw the Glacier de Miage dimly beneath our feet. We waited twenty minutes on the summit, rewarded only by faint outlines, and had to descend again, thankful that at any rate we had had a clear, if incomplete, view of Mont Blanc from the Aiguille d'Estellette. We returned to the top of the col and descended into France. The huge crevasse right across the couloir below us forced us to cut over ice to the rocks on the left ; and in 2 hours we reached the Glacier de Trélatête—arriving at the Pavillon de Trélatête about 7 o'clock in the evening. Although our hopes of a summit view were denied, the expedition had been a long and interesting one which does not appear to receive its due of attention.

Mont Blanc by the 'Sentinel' route from the Brenva Glacier.

The Brenva face of Mont Blanc had really been the chief magnet which drew Herbert and myself across the Col du Géant.

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We had examined this face from the Torino Hut, from Mont Fréty, and (as in the previous year) from the Val Veni ; and we had traced possible new routes on it. But the weather had been against us. It was my good fortune to meet F. S. Smythe after Herbert had been obliged to go home, and to make that first ascent of Mont Blanc *direct* from the Brenva Glacier, already described in the JOURNAL. I mention it here only to state that before making the ' Sentinel ' route, we had examined the possibility of ascending by the true right edge of the Great Couloir. For our actual climb, however, we selected the line of the opposite edge of the Couloir ; but we decided to attempt this other route next season.

Aiguille Verte by the 'Moine ' Arête.

With this aim in view Smythe and I went out in July 1928. Our first long expedition was the ascent of the Aiguille Verte by the ' Moine ' arête from the Charpoua Hut, on which we intended to bivouac in order to test our equipment. A first attempt ended before it had properly begun, and at 3.30 on the morning of July 20, we again left the Charpoua Hut and ascended the ' Cardinal ' couloir. The traverse along the W. side, first of the Cardinal and then of the succeeding part of the ' Moine ' arête, led us on to the arête itself a little above the couloir on Kennedy's route. Thence the climbing was continuously interesting, but our chief difficulty was encountered during a traverse of the ' pointed gendarme ' on its Charpoua side. Rock shelves soon led us to the top of a steep ice chimney, which we had to descend. Thence the traverse of an ice slope ended in a short jump across on to rock. Round this rock we went only to find another very delicate traverse before us. The ascent of a few feet on to a steeply sloping rock ledge was a matter of difficulty ; and then a traverse on ice, ably led by Smythe, took us to a comparatively level place whence it was possible to regain the arête without difficulty. We did so to find that the clouds had descended upon it.

This unorthodox manner of circumventing the ' pointed gendarme ' had wasted much time, and it was not until 4 P.M. that we reached the summit ; but the clouds had now disappeared and we were given a splendid and clear view from this—perhaps the finest view-point of all. The Grandes Jorasses immediately to the S. rise splendidly in one upward sweep. Mont Blanc itself to the S.W. towers above its own buttresses. But we had little time to spare and soon descended,

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making no mistake this time about the traverse of the ' pointed gendarme.' Soon the clouds again came on us, and we descended a little too much on the W. side of the ridge while still above the top of the couloir on Kennedy's route. Here, at 9.20 P.M., we found a convenient place to bivouac, and, having our sleeping bags with us, spent a not too cold night. Next morning we found our way down easily—being aided by the pieces of paper which we had placed during the ascent to serve as guides. After a leisurely descent we regained the Charpoua Hut at about 1.30 P.M.

The Old Brenva Bivouac.

Blakeney had joined us ; we had climbed the Trident de la Brenva to prospect the new route ; and on the evening of July 27 Blakeney, Smythe and I came to the old Brenva bivouac. All the morning we had ascended in the steps of the old pioneers, and at 2 P.M. had reached the lower bivouac under the Aiguille de la Brenva. There we watched the continual falls of stone from the Pétéret ridge and on several occasions saw stones falling across Güssfeldt's route up the Brenva face of the Aiguille Blanche.

Perhaps our most striking memory of the 1928 season will be the noisiness of the mountains. All that day the Brenva glacier had been a basin of sound. Great rock-falls and small, the noise scarcely ceased ; and I found myself wondering how long the Aiguille Blanche and the Pétéret ridge could last at this rate of disintegration. In that loud theatre it seemed that their life could be measured in months.

It was 5 P.M. when we reached the old bivouac, and the weather had changed for the worse during the last 3 hours. We found some old wood lying in the bivouac, rapidly collected it and stacked it in a dry place. The spirit-stove was lit, and during the meal which followed we heard the first thunder claps. We rapidly got into our sleeping bags in the shelter of the rock and, at 7 P.M., the storm burst on us.

It was magnificent and none of us will forget our experience of that night. The lightning repeatedly hit the Aiguille Noire, the Dames Anglaises, and the Aiguille Blanche—illuminating the ridge. The noise of great rock-falls mingled with the thunder ; and as night darkened the falling rocks on the Aiguille Blanche struck thousands of sparks as they fell. The face of the mountain was lit by little fairy-like stars, so that the world seemed real only because of the continuous noise. That,

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however, itself swelled to the limits of unreality. As it were, we looked at fairyland from the depths of a Hades in which even stone-rolling Sisyphus (with all his experience) would have been broken-hearted. The storm waxed as I counted the lightning flashes—12 a minute, then ever increasing steadily until they were coming 21, 22, or 23 times in each minute. For long they averaged round about 22, until they finally rose as high as 25. We saw the lightning strike the Brenva Glacier in front of us. More than once it struck our own rocks. A little rain fell, but soon it hailed—stones as big as small marbles. Fortunately we were safe and dry in the bivouac, and later we lit a fire of the old wood—how long had it lain there, and who left it? About 2 A.M. the storm diminished, but an hour later it shook with a final burst of rage, and then died gradually away.

The climb had, of course, to be postponed; yet our return to Courmayeur was not a dejected one. The climb could wait. In exchange for its postponement we had been given the experience of a safe and dry bivouac in the heart of one of the greatest thunderstorms of the Alps. But Blakeney unfortunately had to return home, and Smythe and I made the Torino Hut our headquarters with the intention of staying there until the conditions justified an attack on the new route. It seemed to us on the evening of August 5 that the time was favourable for our attempt.

First Ascent of Mont Blanc de Courmayeur direct from the Brenva Glacier.

The great Brenva face of Mont Blanc de Courmayeur and Mont Blanc had not been climbed between the line of Güssfeldt's ascent of the Aiguille Blanche de Pétéret and the line of the Brenva route until Smythe and I had the good fortune to discover the 'Sentinel' route in 1927. From the Col de Pétéret round to the Col de la Brenva the length of the crest must be but little short of 3 kilometres. The face below it forms a great amphitheatre which tumbles down to the W. bay of the upper Brenva Glacier. It is an intricate face, broken by great ribs. On the S. there is the colossal buttress of rock running up to Point 4244 m. on the Pétéret arête. From the inmost recess of the W. bay of the Brenva Glacier two lines of rock run up; one, more to the S., leads up between hanging ice walls and is apparently difficult of access at its base; one, more to the N., prominent and well defined, forms

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the right bank of the Great Couloir which descends from under the summit of Mont Blanc itself. Immediately to the N.E. of this couloir lie the twisting ridge and intricate outcrops of rock up which the 'Sentinel' route leads; again to the N.E. of this is another ridge near the base of which stands the 'Red Sentinel,' and the top of which disappears in the ice slopes below the sérac wall to the S.W. of the Brenva route. Finally, the arête of the Brenva route itself conveniently forms the N.E. boundary of the face.

Every mountain climber who has looked on this face from the E. must have ascended in thought by one or other of these routes; and the idea of making the attempt must often have been entertained, as it is said to have been by Preuss, and by Grunewald and Bickhoff. G. W. Young and George Mallory examined a route here; and of all these possible routes undoubtedly the most striking is that leading up the long and steep ridge immediately to the S. of the Great Couloir. As seen in face from the N.E., this ridge is fascinating but forbidding. As seen more in profile from the S.E., from the Val Veni (as Herbert and I saw it), or from Mont Chétif, it is distorted by perspective and slopes back a little too alluringly. From either direction it is prominent and obvious; and after we had climbed the 'Sentinel' route and while we were discussing the possibilities of this great ridge, Smythe told me that Blakeney had pointed it out to him on a photograph—a good instance of mountaineering vision.

But when Smythe and I set out last year to see if a new route could be made on the Brenva face of Mont Blanc, our ideas of that face were ill defined, and it was not until we had examined the upper part of the face itself from the Torino Hut that we could form any clear plans. The route which then first fixed our attention was this same ridge lying to the S. of the Great Couloir. The ridge terminates above in a huge buttress of rock crowned by the ice wall below the final slopes. As far as we could see in the forenoon light, it was a matter of doubt whether this ice wall could be surmounted, supposing it were possible to reach the top of the buttress. We turned to examine the other two routes. Smythe's idea was to attack by the ridge on the Col de la Brenva side of the branch couloir, but as this would have necessitated an exposed (and probably unjustifiable) traverse under the great ice wall, we soon abandoned that plan and compromised on the twisting ridge lying to the N. of the Great Couloir and between it and the branch couloir. When the afternoon sun struck sideways

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across the other ridge to the S. of the Great Couloir, it threw the terminal sérac wall into high relief—and what we then *thought* we saw still further deterred us from an attempt on that route.

But when we rested for lunch at the top of the 'twisting rib' on the 'Sentinel' route we could examine the upper part of this other great ridge. We *then* saw that the sérac wall could almost certainly be surmounted at a tongue of ice which pushes down from the upper slopes on to the top of its final buttress. I sat there and, in imagination, climbed that final buttress. The way led horizontally across a very steep slope of ice on the side it presents to the Great Couloir; and this traverse was followed by an intricate ascent on the rocks of the buttress up to its tip. Again I traced the route with Smythe, but we were both agreed as to the exposure and steepness of that slope of ice. Nevertheless we then and there resolved that the route must be attempted; and, in the event, our way up the final buttress followed closely on the imaginary footsteps of 1927.

But although the final buttress was probably the most serious problem of the climb, we yet knew that it was not the only one. In particular, it seemed to us that there might be a question whether we could get on to the foot of the ridge at all.

When we set out from the Torino Hut at 8.15 on the morning of August 6 with the 'Red Sentinel' as our objective we were uncertain if the foot of the Great Couloir could be crossed. We carried heavy packs—perhaps 30 lbs. each—for we had added sleeping sacks to our equipment; and our route to the 'Red Sentinel' was almost the same as that of 1927. We traversed the S. face of the Tour Ronde as before.

The day was a glorious one, but as we crossed the central bay of the Brenva Glacier we saw that a fierce wind was working its will upon the summit of Mont Blanc. When we arrived on the crest of Col Moore, it was obvious that much of our further route to the 'Red Sentinel' would this year be over rock. But the second couloir was in much the same condition as before. We came to its deep avalanche run and at once realized that it presented a difficulty much more formidable than in the previous year. Its depth was at least 12 ft., and its near side was overhanging—this year completely undercut. The groove had however to be crossed. I lowered Smythe on the rope, round my deeply implanted ice axe, to the bed of the groove. So deep was it that he had again to climb up a little way on the rope before he could grasp his ice

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axe which I stretched down to him at the full length of my arm, he cut across the couloir, surmounted its other and comparatively easy side, and then ascended the snow slope on that side of the groove until he was almost the rope's length above me. I took my courage into my hands and dropped into the groove. As I bumped, slid a little down its ice, and then lay for a moment slightly shaken and held only by the rope, I had an awful feeling of being deserted by the world. But it took little time to scratch the not too hard ice sufficiently to hold crampons and then to cut a step or two up to the steps at which Smythe had crossed. Then the far wall of the groove was surmounted and no further difficulty lay between us and the ' Red Sentinel.'

We reached the ' Red Sentinel ' at 6.50 P.M., and found a little place to the right of our old tilted slab which could be made into a more comfortable bivouac. Smythe lit the spirit-stove and I levelled the bivouac site. Soon we had simultaneously a level sleeping place ready and a good meal. We got into our sleeping sacks and enjoyed the meal and the glorious view. The sun set, and we saw the great shadow of Mont Blanc in the sky over Aosta crowned with a single black ray. Then everything became cold and grey. A keen wind blew on us from the S.E., but disturbed us little in the warmth of our sleeping sacks. Last year the intense cold of even a windless night had prevented us from sleeping at all. This year the warmth of Smythe's excellent eiderdown sleeping sacks enabled us to sleep—although fitfully—in spite of a cold wind. From time to time we were awakened by the coldness of the stones and snow upon which we lay, but soon turned round and got to sleep again. We were, however, both awake when the moon and Venus rose in the East—a beautiful unreality.

Next morning, after a brief breakfast, we selected a small store of food to be left at the ' Sentinel,' put on our crampons, and set out at 4.55. After traversing the ice couloir on the far side of the ' Sentinel ' we climbed round the base of the next ridge to the foot of the Great Couloir. Here it is perhaps 100 to 150 ft. in width and its angle eases a little. Smythe then took the lead across it ; it presented little difficulty—for we could almost run across on our crampons. A high wind was blowing ice crystals off the summits, and these hissed in a continuous stream down the Great Couloir. Sometines the stream swelled in volume, sometimes it diminished ; and as Smythe cut a couple of steps at the far edge of the couloir I stood in it—a queer experience, for the stream offered little resistance, and yet prevented you from seeing where you were

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Photo. T. Graham Brown.

BRENVA face of MONT BLANC de COURMAYEUR with part of PÉTÉRET arête.

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Photo. T. Graham Brown.

Avalanche falling from upper slopes of BRENVA face.

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going—it was like wading through foam. But the couloir was crossed in certainly less than 10 minutes—perhaps scarcely 5—and we had gained the foot of the great ridge with little difficulty.

This we ascended until forced again to the edge of the Great Couloir by a perpendicular step. We avoided it by ascending the edge of the couloir close to the rocks, and soon again regained the arête. As we now ascended there was a great fall of ice from the hanging glacier below the Pétéret arête. The fragments broke and cascaded down the steep Brenva face in a wonderful white torrent. At 7.30 we reached a short ice arête which was very narrow; but the snow on its left or S. side was in good condition. More rock led us at 8.45 to the foot of another and a longer ice arête just below which we found a rather precarious sitting place, where we rested and had a good breakfast. It was a silent meal, for the views made speech impossible. On our left hand to the N. was the Brenva face of Mont Blanc with its great sérac wall and the line of the 'Sentinel' route leading up towards it. To our right we looked at the Pétéret arête across the great perpendicular ice faces, and across the broken ribs of this colossal mountain side; but no words and no photograph can give an adequate description. The morning was calm and warm; as we sat in silence a rather ominous cigar-shaped cloud formed far in the East. A butterfly fluttered round us.

Above us lay three ice arêtes of which the nearest presented little difficulty; the two upper ones were formidable. We set out again at 9.50 A.M., not knowing that we were to have no further halt until after we had surmounted the final sérac wall more than 8½ hours later. The next ice arête went easily, and we were immediately faced with the two more formidable arêtes separated from each other by an outcrop of rock.

Of these two ice arêtes, the upper is the longer; but the two are very similar. Each commences at a point formed by two converging snow edges. From this point the arête runs along slightly ascending for about half of its length. Then it ascends ever more steeply towards its terminal apex—the final angle being perhaps 45°. The arête is excessively narrow in its more level parts. Here some trick of wind and weather forms a narrow blade of ice along the crest. Its sharp edge acts as a convenient hand-rail. So narrow and clear is this ice that the strong southern sun shone dimly through it. In each case we found the snow on the S. slope of the arête to be in bad

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condition. We walked along the arête itself, and then on the right-hand side of the narrow blade of ice. Soon Smythe, who was leading, went on to the right-hand slope itself and cut up to the apex of the arête. The butterfly had followed us until the commencement of the step-cutting on the lower of these two arêtes—when the wind first caught us. The small cloud was dissolving; the views were grand beyond description.

Twenty minutes' rock-climbing took us to the foot of the last arête, which was surmounted in the same manner. Below its apex we wasted some time in a vain attempt to find lodgment on an outcrop of rock upon the right-hand slope. Then Smythe cut directly up to the apex of the ridge along the edge of this outcrop.

The final buttress is in two parts. It is like a pyramid set upon a low pedestal, the surface of which is not horizontal, but slopes sharply down to the N.—that is towards the Great Couloir. The apex of the highest ice arête ends at the foot of a 15-ft. chimney which led us up without difficulty over the wall of rock and on to the surface of the 'pedestal' at 1.40 P.M.

Here we resolved to try to ascend by the route planned in the previous year—that is, to traverse on our right across the steep ice slope above the Great Couloir—the slope which forms (as it were) the surface of the pedestal. I drove my axe deep into the snow while Smythe walked across the slope. Above us on our left was the overhanging N. face of the buttress. In front of us, a tongue of rock ran down from this at a right angle. There is a chimney in the recess thus formed. Soon the axe had to be used. The slope turned to ice, hard, brittle, and green—almost transparent, for its surface was covered by *verglas*. It became excessively steep and hand holds had to be cut. Smythe asked me what I thought of the chimney, and I replied truthfully and frankly—'it looks beastly.' It appeared, however, that we were forced to try this way, and I must say that the alternative—a traverse round the descending tongue of rock—looked even beastlier than the chimney. Smythe cut up to the corner, where I joined him. There was a gap of a few inches between the top of the ice and the rock wall on our left, and we jammed the ice axes and stood on the narrow top edge of a slope of hard ice which must have been at least 60°, perhaps 65°, in steepness. Smythe attempted the chimney without success, and then I tried it and similarly failed. Yet it looked as if this was the only way. Neither of us wished to retreat, and it was doubtful whether the S. side of the buttress could offer an easier way or if there was now sufficient time to

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get round and ascend by it. I must say that I shuddered at a suggestion of descending into the Great Couloir, crossing it and attempting the summit by way of the upper part of the 'Sentinel' route. It was this alternative, I think, which prompted me to offer Smythe my back in the recess. You may perhaps wonder why the offer was such a tardy one—but we were wearing crampons and could not take them off. Smythe accepted the offer; tried the chimney again, and again failed to overcome it. He came down on to my back with an unfortunate effect, for my side pocket was ripped open and I lost my pipe—a sad discovery only made later on at the Vallot Hut. Smythe then gallantly offered me similar aid. Again lodgment at the top of the chimney was found to be impossible. Above it was a slab covered with *verglas* and affording no trustworthy hold. I descended and, am thankful to say, with less destructive effects. There is advantage (sometimes) in a small and light build! Again the horrible alternatives presented themselves to us and drove me to suggest an attempt to get round the descending tongue of rock and traverse still farther to the right. At first the descent was down our old steps, but then led near the edge of the rock down the steep ice. Soon it was possible to get along under the rock; and as I rounded the corner I saw to my amazement that, on the other side of the rocks and some way above, the ice slope merged into a broad couloir set at an easier angle and filled with good snow. In a little while the snow was reached with not much rope in hand, a sound belay found, and Smythe rejoined me. We ascended the couloir until stopped at the foot of a wild rocky gully up which our path seemed to lie. Direct entrance was impossible, but there was a short and difficult 15-ft. chimney on our right, from the top of which a traverse might be made into the gully. The finish over the left wall of the chimney was a difficult one; however, it went. I hauled up the rucksacks and the party came together again. Smythe then led across into the gully which we ascended for perhaps about 50 ft., to a place where there appeared to be three possible routes. The direct ascent of the gully failed. I found that an exit to the left led up merely to a difficult rock face. Smythe tried the way to the right which had always looked the easiest but seemed to lead too much towards the sérac wall. As we went on, however, we found that the route was still entirely unexposed. Another slope of good snow led up to the foot of another gully, narrow but filled with snow; and we now knew that we were reaching the top of the buttress. In places ice necessitated

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step-cutting, but soon an exit by the rock on our left led us to the very top of the buttress.

As we stood here, the huge sérac wall ran on our right in the direction of Mont Blanc. Across the Great Couloir was the sérac wall above the 'Sentinel' route and nearly level with us. The 'Sentinel' route lay spread out like a map, while over on our left we looked down along the great Pétéret ridge on to the top of the Aiguille Blanche. To the rocks upon which we stood a tongue of ice, perhaps 20 ft. high, ran down from the final slope on to the top of the buttress. This tongue was irregular and broken up by a ledge of ice. We could see that our difficulties were over. In a few minutes we walked up the sérac wall and at 6.10 P.M. were on the final slopes below the summit of Mont Blanc de Courmayeur. We had perhaps lost more than 2 hours in our various attempts to find the proper route, while the climbing day was now far spent.

All day long a strong wind had blown across the summits. We had first met it—fierce and cold gusts accompanied by stinging ice crystals—on the ice arêtes. The wind was now bitter as we made up the slopes towards the first great horizontal crevasse which runs across far below the summit ridge. Here we arrived at 6.25 P.M., descended into the crevasse, and took shelter from the wind—our first deliberate halt since we had left the breakfast place at 9.50 A.M. Our plan had been to make this new ascent a route to the summit of Mont Blanc de Courmayeur, and, if we were to succeed in this, time was short. So we gave ourselves only 15 minutes' rest before setting out again.

The final slopes on this side of the mountain present no great difficulty, but they are steep, and the crusted snow made their ascent laborious. The fierce wind struck at us as we zig-zagged up and we were both blown about at different times, here and on the crest. Once, as I looked back, I saw far below us the summit of Mont Maudit, bright pink in the sunset light—a vivid contrast with the green-grey colours of the now darkened Brenva face of Mont Blanc. It was strange to look out of shadow *down* on to a peak lit by sunset glow. We arrived on the summit ridge at 7.30, turned to our left and in 15 minutes—at 7.45 P.M.—were on the summit of Mont Blanc de Courmayeur.

As we reached the summit the sun was near the point of setting, but was now masked behind a bank of cloud. Everything about us was grey and sombre save for a deep red line in the West. The loneliness was almost terrible, but as we

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Photo. T. Graham Brown.

COL and PIC "MOORE" from first rocks *en route* for BRENVA ridge.

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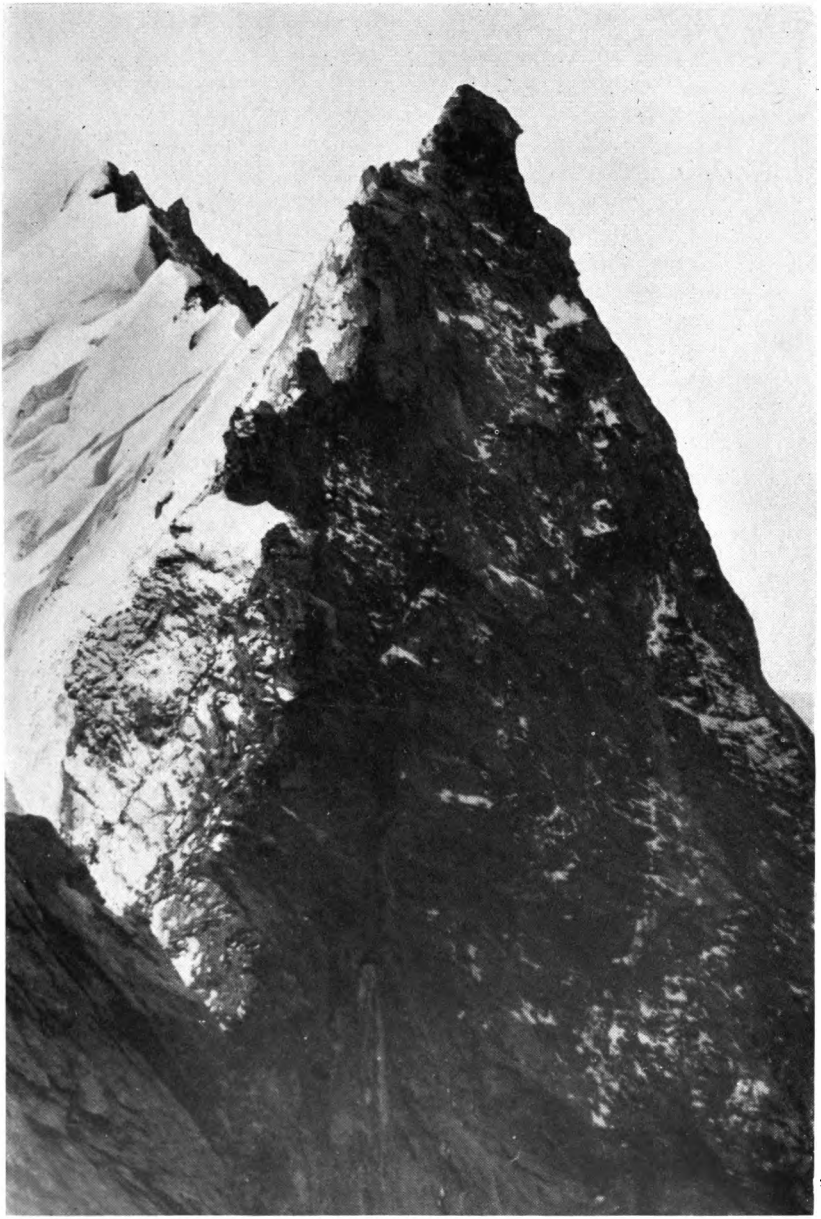

Photo. T. Graham Brown.

WEISSHORN, N. arête: the great Gendarme.

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came on to the actual summit a miracle happened—we were suddenly joined by distant friends. For, as we faced East, there was a bright flash from the Torino Hut, and we knew that friends had seen us and were signalling their good wishes. It was not until later that we heard that Herr Alfred Zürcher and Joseph Knubel had come up that day to the Torino Hut, and that Knubel had flashed his lantern to us at the moment they had seen us reach the summit.

The wind was still blowing, but not so fiercely as before. We turned with scarcely a pause towards Mont Blanc and walked along the summit ridge. Once I glanced to the East: the sun at the moment of its setting was shining beneath the great bank of western cloud, and the cone-shadow of Mont Blanc now stood out high above the horizon over Mont Emilius. We went on, and when I again looked a few seconds later the cone had disappeared. On the summit of Mont Blanc the wind had fallen somewhat in strength, and now—thank goodness!—blew steadily. We reached the Vallot Hut at exactly 9 P.M., and descended next morning by the Grands Mulets and Pierre Pointue. Thence we walked across to the Montenvers. Happy and contented we lingered on the way.

The First Combined Traverse of the Weisshorn by the N. and S.W. Ridges.

The third of the classic points of view is the Grandes Jorasses, but I shall not describe a delightful and uneventful ascent taken with Alexander Graven whilst Alfred Zürcher and I were waiting for the weather to give an opportunity for some longer climbs. The summit view is a fine one, and full of interest—the N.E. spreads like a map, the Rochefort arête leads the eye W. to Mont Blanc. But the Aiguille Verte is a rather ugly hump in the N.; and the view of the Brenva face—magnificent from any point—is at any rate equalled by that from the Dent du Géant. I think that from this side the greater view is got from the valley and not from the mountain. As we descended to the Val Ferret the sun set behind the exact summit of Mont Blanc, and its rays illuminated a great cloud of snow dust which a *tourmente* was stirring there. Mont Blanc, although in no saintly mood, had assumed a halo; for there was a belt of darkness between the glowing cloud and the summit beneath it—the shadow of the mountain projected on the flying snow. Yet the finest view is not from here, but from higher up the valley a little above Le Pont. It must

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be seen in the evening when the Brenva face is in shadow and great sunbeams strike through the gap of the Dames Anglaises. All the ridges fit into their proper places, and the eye is carried irresistibly to the Pétéret arête. This is seen in nearly its right proportions, and the picture is a unique one—this wonderful rock ridge leading up inevitably to its proper and dominating conclusion. It does not seem to belong to the Italian sun but to a northern Jotunheim. As we stood looking at it together, I think Signor Polvara hit the right expression —' it is fantastic.'

Our further intentions with regard to the S. face of Mont Blanc were frustrated by the weather; we decided to go to Zermatt and to traverse the Weisshorn on our way.

On the evening of August 23 Herr Alfred Zürcher and I, with Joseph Knubel and Alexander Graven, arrived at the new Topali Hut—a hut as beautiful in form and arrangement as in situation. When Mr. Versluys, with Heinrich Pollinger and J. M. Julen, came in a little later we knew that we were not to be alone on the *Nordgrat*. Next morning we all set out at 1.45 and went forward until 4.10 when we paused to rope up in three parties. Joseph Knubel here left a candle-end lighted on the rock, saying 'Für die armen Seelen.' Long afterwards we saw it burning there as we looked back.

The ascent of the Bieshorn was followed by the wonderful traverse of the *Nordgrat*. It went on and on. Sometimes one rope led, sometimes another. At many places we all forgathered for a short halt and a little food. The climbing held our interest continuously, and eventually the summit was reached at 1.25 P.M. The clearness of the magnificent morning had gone and a rather cold wind blew from the W.

At 2 the Dutch party set out down the E. arête, and in some doubt we rediscussed our plans. If we descended by the *Schalligrat* there was some chance of our failing to get off the mountain that day. It is true that the weather looked settled for the time being, but it was doubtful whether rain or snow might not fall during the night—and in the event this actually happened. In two minds about our original plan we finally decided to put the question to the toss. Graven produced a 5-franc piece; Knubel spun it; Zürcher called 'heads.' The coin fell edge up in the snow and it seemed as if even Fate could not make up her mind. We tossed again and this time the coin gave the order for the *Schalligrat*. We made our preparations with all speed, as haste was necessary.

We left the summit at 2.15 P.M. and climbed down the rocks with great speed on two ropes—Zürcher and Knubel, Graven

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and I. Below the Great Gendarme on the *Schalligrat* we descended on to the S. face and again regained the ridge by a traverse. After following the ridge down to a point about one-third of the way from the summit to the Schallijoch, we again took to the S. face of the mountain. A direct descent and a *rappel* were succeeded by a descending traverse to the left towards a small but fairly defined ridge. On gaining this we held it with a few deviations and then descended straight down the S. face of the Weisshorn a little to the W. of the direct line below the summit. Descending as rapidly as we could, we reached the last rocks at 5.5, where Zürcher and I rested for 20 minutes whilst Knubel and Graven examined the way off. At 5.25 P.M. we left the rocks and traversed W., only to find that the great bergschrund went more easily just under our ridge.

Retracing our steps we descended to the bergschrund and crossed it at 5.45—3½ hours after leaving the summit. From this point the way to the Weisshorn Hut presented little difficulty, and there we arrived at 8.21 P.M.

It rained during the night and next morning we awoke to find the Vispthal filled by a sea of cloud. There were great cloud masses in the East over the Dom and Täschhorn, and the sun struck down through them. We then knew, I think, that this was to be the end of the season for us ; for from the top of the Weisshorn we had looked West and there seen a great mass of clouds round the summit of Mont Blanc. The mountain, tying on its winter night-cap, would soon draw up the white counterpane of winter snows.

Six Years and the Four-Thousanders.[1]

By EUSTACE THOMAS.

(Read before the Alpine Club, March 5, 1929.)

THE tale which follows may have some interest for older men, in that it tells of the redemption of a wasted youth. For in spite of many holidays spent in Switzerland and among the mountains, the atmosphere created by the friendship of true mountaineers had been lacking, and it was not until 1923 that a first serious Alpine season was embarked upon. In the six years from 1923 to 1928, a very successful effort has been made

[1] See ' Proceedings of the Alpine Club,' p. 259.

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to make up for lost time ; the ' Four-Thousand Metre ' peaks of the Alps, over 80 in number, have been gathered in, as well as about 30 others, and experiences have been gained that will form a rich store of memories for the future. But there was a prelude to this six years. The mountaineering friendships had just been found and the introductions to mountaineering made, when in the Whitsuntide week of 1919, the writer being then just fifty years of age, an attempt was made to repeat the great circuit of the English Lakeland Fells as Dr. A. W. Wakefield had left it. The map distance was about 56 miles, and the aggregate height climbed approximately 23,500 ft. In my attempt in 1919 the circuit was covered, but took over 24 hours. With the experience of this trial run to go on, a further attempt was made in 1920, with the great advantage and privilege of Wakefield's help : the complete list of peaks was bagged in 21⅓ hours. This, however, was only a preliminary, and in 1922 a further effort was made to increase the aggregate ascents to 25,500 ft., and to complete the circuit in as short a time as possible. The attempt was successful, and the time was 21 hours, 54 minutes. After about 2 hours' rest to recover appetite, a further start was made, and in 28 hours 35 minutes from the commencement, 30,000 ft. had been ascended and an ambition realized that had seemed rather wildly improbable !

This work among the English hills had been an obsession, and had obscured other interests. The method of training adopted was perhaps rather novel, but apparently successful, and the whole formed a very useful preparation for work in the Alps.

In 1923, then, the first serious Alpine tour was commenced. By great good fortune Joseph Knubel was found free, and a five-weeks' engagement was arranged with him. It has been the writer's luck to have had Joseph Knubel as guide in every year since.

1923. JULY 15 TO AUGUST 18.[2]

Diablerets
Bietschhorn
Weiss Nollen
JUNGFRAU, MÖNCH, GROSS FIESCHERHORN
Aig. des Grands Charmoz, Aig. de Grépon, Aig. de Blaitière
Aig. du Grand Dru, Aig. du Petit Dru

[2] In this and the following tables the 4000 m. peaks are shown in capitals and the others in italics. Peaks bracketed together were climbed on the same day.

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FINSTERAARHORN *Finsteraar-Rothhorn* *Oberaarhorn*	ZINAL ROTHHORN DENT BLANCHE (E. arête)
Aig. de l'M. *Aig. des Petits Charmoz*	MATTERHORN (Z'mutt arête)
DENT DU GÉANT *Dent du Requin*	LENZSPITZE NADELHORN *Ulrichshorn*

There was at first no thought of any lengthy programme, but, at my own suggestion, a start was made at the Diablerets, with the intention of making the high level route to Gletsch, picking up interesting peaks on the way. It was, however, a definitely stated ambition to ascend the Jungfrau—Mönch—Eiger, as also the Charmoz—Grépon—Blaitière—in one day.

The Diablerets was duly ascended. It was Knubel's first experience of it, and I am afraid he was somewhat contemptuous. That afternoon the weather broke and it rained all the next day, so that we stayed at Sanetsch. This early reverse broke up the programme; the Wildhorn, Wildstrubel, &c., were cut out, and the following evening found us in the Bietschhorn Hut. The Bietschhorn had, it was stated, just been re-measured, and we thought that it was the first of our Four-Thousanders. It was an error, the height remains, for the present, at 3953 m. A move was then made to the Concordia Hut. But on the way up the Langgletscher signals of distress were heard, and it was found that a girl had fallen into a crevasse and was being held up by her companion, a man. They appeared to be quite helpless of themselves. The girl was hauled out very quickly by Knubel and was little the worse. It does appear to me that they should not have been dependent upon the luck of making another party hear, and I would like to see something done to send the many guideless climbers out better instructed in vital technique.[3]

A day or two later the attempt was made to gather in the Jungfrau, Mönch, and Eiger, in one day from the inn at the Jungfrau Joch. The Jungfrau was ascended in 3½ hours, but the track had been obliterated by fresh snow, the wind blew the lanterns out and there was no moon. The descent to the starting-point took 66 minutes. A rather leisurely breakfast was taken at the Joch, and then the Mönch was ascended and descended to the upper Mönch Joch. The weather was turning bad, so

[3] The obvious way is to learn with good professionals.—*Editor.*

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the Gross Fiescherhorn, a four-thousander, was substituted for the Eiger, which is not one. This and the journey to the Concordia were duly completed in snow, mist, rain, and a mild thunderstorm. These three Four-Thousanders in one day were valuable in giving confidence that our ambitious schemes might be attempted. Two days later the Finsteraarhorn and two minor peaks were ascended; and immediately after the descent was made to Gletsch.

The scene now changes to the Montenvers. After the usual Aiguilles de l'M. and Petits Charmoz, the Glacier du Géant was ascended, taking the Géant on the way and then the said glacier was descended, taking in the Requin *en route*. Then came the third definite item on the programme, and the Charmoz, Grépon, and Blaitière were all ascended in the one day. But this day contained various other incidents. Just above the *Rognon* of the Nantillons Glacier, a climber was found to have been in a crevasse for seven or eight hours—since 9 P.M. of the previous night. It was a cavernous crevasse, but fortunately he had found a knob to stand on and was not hanging on the rope. Knubel and Alexander Lagger drew him out in a very few minutes. His two companions had anchored the rope, and should have been able to pull him out hours before, but were too ignorant. This was a second instance of the desirability of trying to impart some planned instruction, or training, or assistance to the increasing numbers of young guideless climbers, who would gratefully accept such help, and who without it just drift along in dangerous ignorance.[4]

After the three peaks had been ascended there were more excitements. The séracs proved dangerous that year: there were two alarming warning cracks while we were in the danger zone; ten minutes after leaving it a sérac broke off, raking the neck of the glacier which we had just crossed with tons of broken ice.

A day or two later the Grand Dru was ascended and the Petit Dru descended. It is a tedious journey—17 *rappels*.[5] Taken in the reverse, the expedition must be immense.

And now the scene changes again—to Zermatt. On Monday the Zinal-Rothhorn was traversed to Mountet. On Tuesday the Dent Blanche was traversed by the *Viereselgrat* to

[4] The obvious way is to learn with good professionals.—*Editor.*

[5] In the discussion following this paper, Mr. H. V. Reade stated that he had descended the Petit Dru without a spare rope and considered the climb to be—as it is—one of the best in the Alps *cf. Vallot* ii. p. 120—*Editor.*

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Photo. W. H. Amstutz.

PIC and COL ECCLES, N.E. slope, from COL de PÉTÉRET.

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Photo. E. Thomas.

S.W. slope of PIC and COL ECCLES, with upper basin of BROUILLARD Glacier.

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Schönbühl, and on Wednesday the Matterhorn was traversed by the Z'mutt arête to Zermatt. On the Matterhorn we found a single guideless climber, who fought rather shy of descending by himself and was glad to join our party. On these days the mountains were streaming with avalanches of all sorts.

The following day saw the party at the Dom Hut, and from this spot the holiday finished with the traverse of the Lenzspitze, Nadelhorn, and Ulrichshorn to Saas. It was an unusually fine season as regards weather, and yet on some ten or eleven days conditions were not favourable for the climb desired. A number of Four-Thousanders had been obtained, but there was as yet no recognition of these as part of the programme.

1924. JULY 10 TO AUGUST 6.

Aig. des Grands Montets
Aig. du Chardonnet
Aig. d'Argentière
Aig. du Plan
AIG. DE ROCHEFORT
Mont Mallet
Aig. du Midi
MONT BLANC DU TACUL
MONT MAUDIT
MONT BLANC
DÔME DU GOÛTER
AIG. DU GOÛTER
Aig. du Tacul

Wellenkuppe
ALLALINHORN
ALPHUBEL

RIMPFISCHHORN
DUFOURSPITZE
GRENZGIPFEL
ZUMSTEINSPITZE
SIGNALKUPPE
PARROTSPITZE
LUDWIGSHÖHE
SCHWARZHORN
PIRAMIDE VINCENT
LYSKAMM . . 4538 m.
4478 m.
CASTOR
POLLUX
BREITHORN . 4171 m.

In 1924, with Joseph Knubel and Alexander Lagger, a start was made at the Montenvers. On successive days, except for a break on Sunday, the following were taken: the Col des Grands Montets, the Aig. du Chardonnet, and the Aig. d'Argentière. Then the Aig. du Plan on the way to the Torino Hut, the Mont Mallet with the Aig. de Rochefort—the first Four-Thousander of this season—and the Aig. du Midi. Then came two days of bad weather, and the traverse from the Torino Hut, of Mont Blanc du Tacul, Mont Maudit, Mont Blanc, the Dôme and Aig. du Goûter, to St. Gervais and Chamonix. It was extremely cold, and a start was not made till 4 A.M.

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A rapid traverse was accomplished, however, and on the final ascent to Mont Blanc there was some breathlessness, showing that acclimatization was incomplete. This seems to the writer a much better expedition than the one in the opposite direction. There was now a week's delay, waiting unsuccessfully for the Aig. Verte. The Aig. du Tacul was ascended during this week, and is strongly recommended as one of the very best view-points in the Alps. In particular, the view of the northern face of the Grandes Jorasses is most impressive. The weather did not improve; the Verte was given up and a move made to Zermatt.

It was now that the idea of making the Four-Thousanders a definite item of the programme was first mentioned; and thereafter the smaller peaks were only sought if on the route of the greater ones, or if the weather permitted no others. Two attempts on the Ober Gabelhorn failed, one through too much ice and one because a thunderstorm came on early. The Allalinhorn and Alphubel were taken on the same day from and to the Täschalp, and make a pleasant combination. We met an old fellow of sixty-nine on the Allalinhorn.

The Rimpfischhorn was taken from the same place, starting at 6 A.M. It stands out for some reason as a particularly pleasant day, perhaps because an old friend, Humphry, had joined us, and because there were atmospheric effects covering the distant hills with colour. Swiss scenery frequently suffers from too little atmosphere, and the sky often appears very dark in photographs from the same cause.

There followed three fine days centred round Monte Rosa. The writer has often heard Monte Rosa described as a dull mass. He has been on it four times, and there were always special incidents to leave interesting memories. On the first ascent, from the Bétemps, a violent storm came on after passing the Dufourspitze, and there was just time to scuttle, thankfully—Knubel with his moustache frozen solid—into the Capanna Margherita. The bad weather had stopped us from attempting the Nord End; it had been our intention to traverse all the points mentioned in one day.

The following day was fine, and the Parrotspitze, Ludwigshöhe, Schwarzhorn, Balmenhorn, and Piramide Vincent were taken on the way to the Gnifetti Hut. Unfortunately, besides the Nord End, the Punta Giordani and Il Naso were not recognized as Four-Thousanders, and three more visits were made to Monte Rosa before these could be claimed.

On the day after this an ambitious programme succeeded

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completely. From the Gnifetti Hut the Lyskamm was traversed, with its two peaks, followed by Castor and Pollux, and finally the Breithorn; the descent being made to the Schwarzsee Hôtel. Here again a mistake was made. The insignificant Felikhorn was omitted, and the whole E. ridge of the Breithorn. This mistake meant a second visit later, which, however, leaves very pleasant memories. And, speaking generally, a second visit to a mountain is often as pleasant as a first, or even more so, and may have novelty of route. There is a special friendliness about second visits; so that the mistakes and omissions necessitating these are not regretted, even if against the efficient execution of the programme. Weather permitted nothing further that holiday. On returning home a list of Four-Thousanders was obtained from Captain Farrar, and formed the basis of all future work.

1925. June 14 to August 1.

Pic Coolidge
Dôme de Neige des Écrins
Les Écrins
Piz Bernina
Piz Zupô
Strahlegghorn
Faulhorn
Schreckhorn
Lauteraarhorn
Strahlhorn
Fletschhorn
Laquinhorn
Weissmies
Stecknadelhorn
Hohberghorn
Dürrenhorn

Weisshorn
Bieshorn
Ober Gabelhorn
Dent d'Hérens
Breithorn, 4171 m. } Second visit
4148 m.
4078 m.
Castor
Felikhorn
Il Naso [6]
Punta Giordani
Piramide Vincent } Second visit

In this year, 1925, an arrangement was made with Knubel and Lagger for seven weeks together, so as to make a determined attack on the Four-Thousanders; but through bad weather and some indifferent staff-work much less was achieved than had been hoped. The start was in Dauphiné on June 15, with Les Écrins *via* the Dôme de Neige. This gives a fine climb, and as we were about a month earlier than usual, it was particularly satisfying. The Pic Coolidge was thrown in the day before to

[6] Little more than a buttress on the S. face of the Lyskamm.—*Editor.*

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loosen muscles. From here a long journey was made to another outlying district, and the Pizzi Bernina and Zupô were taken in the most efficient way in one day, our time for the Bernina being only 4 hours 25 minutes. On the return a most unusual incident occurred, fortunately without any ill effect. The two guides had gone ahead to look over the ground for the descent, when suddenly both dropped through the snow, on which they were standing at the moment, into a crevasse. Knubel was out again in a moment and helped out Lagger. It is to be remembered that it was quite early in the season. A special memory of this visit is that we were charged at the Restaurant Morteratsch some £6 for two meals for the three of us and for the usual unappetising provisions taken to the hut. Moreover, the said restaurant is situated on the Berninabahn.

Another long journey followed to Grindelwald. The weather in this first week had been perfect. It was bad planning that it should have been largely wasted in long railway journeys to pick up widespread outliers. Grindelwald has always been an unfortunate centre for me. Between June 20 and July 6 the weather was such that two peaks only were got, and they were literally snatched—the Schreckhorn and the Lauteraarhorn.

There were others to be done in the district, but patience was exhausted and a move made to Zermatt. Alexander Lagger had gone sick and his place was taken by Ramon Lagger. Here the Strahlhorn—a very insipid peak—was taken from the Z'Fluhalp to Saas. Then the Fletschhorn, Laquinhorn, and Weissmies were ascended in one day. This expedition was memorable for several reasons. There were some exceptional colour effects on the way to the hut; the new 'hotel' was in the hands of workmen, and we were chivied in the day and kept awake at night. There was also one of the most gorgeous sunrises from the Fletschhorn that I have ever seen. There was so much snow that the ridge between the Laquinhorn and the Weissmies could not be traversed, and a descent had to be made to the glacier. The Weissmies was ascended from there, and this last ascent, in deep soft snow and a hot sun, was the most wearisome heavy-going the writer ever remembers. The descent on the other side, however, revived us, but even there some of the snow was inclined to slip. A traverse was now made to Zermatt *via* the Stecknadelhorn, Hohberghorn, and Dürrenhorn, all Four-Thousanders. Next followed the Weisshorn. An entry in the hut-book claimed the first ascent of the season for a guideless party of two. We followed two days later and ascertained from their tracks that they had not

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been within an hour of the summit. It was still early in a bad season, and ours was, presumably, the first ascent. An attempt to continue along the N. ridge to the Bieshorn was checked by bad conditions at the Gendarmes ; an attempt to reach the same peak over the Biesgletscher next day was stopped by dangerous snow. This same snow carried away a party a few days later. The Bieshorn was conquered at the third attempt by yet a third route from a chalet above St. Niklaus. It had acquired an unnatural interest by the difficulty of approaching it.

There followed a delightful day, the Wellenkuppe-Ober Gabelhorn and descent by the *Arbengrat*. Parts required much care in the then state of the snow, but it is an excursion much to be recommended.

An outstanding week followed. On Monday an attempt on the Dent d'Hérens from the Schönbühl Hut failed through two patches of bad weather. There was interesting work in the ice-fall of the Tiefenmatten Glacier, which paved the way for a splendid assault next day. On this, the original plan of going by the Tiefenmattenjoch was abandoned, and instead of this the N.W. face was attacked direct. One snow bridge had to be wormed over lying at full length, and there was a little step-cutting in ice ; but an excellently planned route to the top was made by Knubel. The return was made by the same route, and, in spite of two long rests, the Schönbühl Hut was reached again at midday ; in the afternoon we crossed to the Schwarzsee Hôtel. Next morning we left for the Breithorn, and, without roping, reached the top in less than 4 hours. There followed the traverse of the E. ridge to pick up the two points left out, the descent to the base of Pollux, the ascent of Castor, and finally the capture of the little Felikhorn previously missed. The night was spent at the Sella Hut ; all the next day it snowed. The day after a way was found over Il Naso, another outlying Four-Thousander, on a rib of the Lyskamm, to the Gnifetti Hut. It was very good work, as the route was unknown to any of us. There was much mist, and matters got steadily worse all day, with snow and rising wind. Saturday arrived, with a very strong and intensely cold wind. The route to the Punta Giordani had to be taken in the dark over unknown ground. Very early we got into an icy chimney by which a rock face was descended. Possibly with more light it could have been avoided. At the foot a wait was made for more light and then the Punta Giordani was ascended. It would probably be quite an easy matter in full light. The Piramide Vincent was crossed

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for the second time, and some shelter from the cold obtained in the Ski Hut on the Balmenhorn, but there was so much ice and snow in this that it took a quarter of an hour to get into it. There still remained the Nord End, but conditions were considered too severe, so a descent was made by the Grenz Glacier.

It had been a very disappointing year for so long a holiday; but some 21 new Four-Thousanders had been added, and 5 others had been revisited, while 15 of the ascents had been the first of the season. But there were no regrets—the difficulty of getting peaks made them far more worth while.

1926. JUNE 14 TO JULY 23.

HINTER FIESCHERHORN		TÄSCHHORN	
GROSS GRÜNHORN		RIMPFISCHHORN	4119 m.
ALETSCHHORN		GRAND PARADIS	
NORD END		*L'Innominata*	
GRENZGIPFEL		GRAND COMBIN	4148 m.
OSTGIPFEL	Second		4317 m.
DUFOURSPITZE	visit		4078 m.
DOM			

The year 1926 was started on June 14 at Grindelwald, and again there was bad weather for a full week. But eight days after arriving the Hinter Fiescherhorn was ascended from the Jungfraujoch. The ridge from the Hinter Fiescherhorn to the Gross Grünhorn was too deep in snow; so a descent was made for a considerable distance and then the Grünhorn was ascended direct. The finish was by the Ewigschneegletscher to the Concordia. It was a very laborious day, with touches of snow, thunder, and oven-like heat, and the snow was so deep and soft that it was only by the help of snowshoes that we just accomplished it. Franz Biner was second guide, and he and the writer had loathsomely swollen and blistered faces for several days. Here, at the Concordia, we were stuck for four nights—it was not cold enough at night to consolidate the snow on the Aletschhorn. But at last, on Saturday, we got a glorious traverse of the Aletschhorn in perfect conditions. There was so much snow on the Ober Aletsch side that the descent was an almost continuous glissade.

The Nord End was now at last successfully snatched from the Bétemps. It was our fourth expedition over Monte Rosa. The day was fine and Knubel took a direct and unusual route

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that landed us on one difficult step, but saved time. From the Nord End a course was taken along the summit-ridge ; this was traversed completely for the second time. The descent from the Sattel to the Bétemps was done on the run in less than an hour. And now the Dom and the Täschhorn were picked off in two successive days from the Festi Hut. The descent from the Dom was nothing but a succession of glorious glissades. It seemed a most disrespectful way of treating a great mountain. Conditions were too bad to admit of any fancy ascents of these mountains.

The lower or N. peak of the Rimpfischhorn was another 'left-over.' It was taken by an original cross-country route from the Z'Fluhalp, taking much longer than was expected. The snow was soft and the going heavy.

We were progressing: the remaining peaks were around Mont Blanc, and a move was made *via* the Great St. Bernard to Italy. First the Grand Paradis was ascended by a route possibly never taken before, much of the work being done in thick mist. There were two *rappels* over iced slabs on a wall that ought not to have been there, and the ascent of a long couloir on rotten snow with an ice-wall just across the way—when it could be seen through the mist. It was much more interesting than the proper way, which is rather humdrum.

We arrived at Courmayeur on July 13, leaving on July 21 with nothing but the Innominata and some plans for the future of trying to bag the Aiguille Blanche *without* a bivouac, which had not yet been done. On the way home to England, we consoled ourselves with the three peaks of the Grand Combin, which were ascended unroped. We were the first visitors to the newly rebuilt Valsorey Hut ; but were not allowed to inscribe our names as the official opening was on the day we left.

1927. July 18 to August 14.

Aig. des Grands Charmoz	Aig. de Rochefort	}
Aig. du Peigne	Dôme de Rochefort	}
Aig. Ravanel	Aig. de Bionnassay	
Aig. Verte	Mont Blanc . .	Second visit
Les Droites	Grandes Jorasses :	}
Aig. du Jardin	Pointe Walker	}
Pointe Mieulet	Pointe Whymper	}
	Punta Elena	}
	Punta Margherita	}

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In 1927 there were not many peaks left, and one might reasonably hope to get them all. The holiday started in the middle of July. The conditions were not yet right for the Aig. Verte; and the traverse of the Charmoz—a delightful climb—and the ascents of the Aiguilles du Peigne and Ravanel —both very much worth while—filled the gap. Then in quick succession followed the Verte—we took part in the first ascent of the season, and were down again out of the couloir soon after 8 A.M.—Les Droites, and the Aig. du Jardin. On these last two Knubel made his own route. That on the Aig. du Jardin was entirely by the huge couloir—a companion to that on the Verte. It had never been done entirely up the centre of this couloir before, but Knubel's judgment was justified. It was extremely steep at the top and rather rotten, so that we went down backwards at the commencement of the descent. There were still two outliers that had been missed. The Pointe Mieulet on Mont Maudit was taken in 9 hours, by Knubel and myself alone; and the return journey made to the Torino Hut. We then joined Alfred Zürcher with the guide Lerjen and had a second delectable day on the Rochefort arête to capture the Dôme de Rochefort; returning to Montenvers by the Mont Mallet Glacier, with the huge N. side of the Grandes Jorasses continually drawing our eyes.

The Aig. de Bionnassay was in such good condition that it took just 4 hours 10 minutes by the N. face. It was the third ascent by that route. The E. arête was then traversed, the snow being rather rotten in places. This is stated at times to become a knife-edge of ice. The Aig. de Bionnassay has come more into favour of late, and it gives a great view that few people know on to the fine hinterland of Mont Blanc. An ascent very much worth while. The night was spent in the hut on the Aig. du Goûter. Next day Mont Blanc and Mont Blanc de Courmayeur were traversed in an attempt to reach the Pic Luigi Amedeo from above. But the arête was found to consist of ice necessitating such prolonged step-cutting, that with doubtful weather the attempt had to be abandoned. It was as well, for a thunderstorm developed two or three hours later. We removed now to Courmayeur. The Aig. Blanche seemed to preserve a continuous patch of cloud and bad weather to itself and remained impossible till after we had left. We snatched, however, the Grandes Jorasses, a fine traverse over Pointe Walker, Pointe Whymper, Punte Elena and Margherita. The two last are fine in themselves, made even more imposing by their settings. The descent was by 300 m. of extremely rotten

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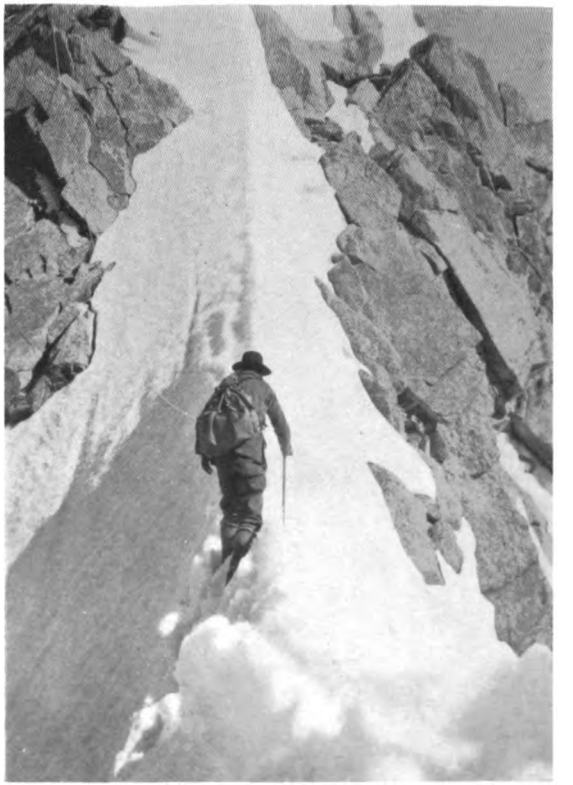
Photos. E. Thomas.

On the AIGUILLE BLANCHE DE PÉTÉRET.



On COL ECCLES.

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Photo. H. Hoerlin.

MONT BROUILLARD and COL EMILE REY from PIC ECCLES.

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and steep snow arête that ought not to have been there; we went down backwards the whole way, taking every precaution.

1928. JULY 3 TO JULY 28.

Aig. Joseph Croux
COL EMILE REY and MONT BROUILLARD (from Brouillard Glacier)
AIG. BLANCHE DE PÉTÉRET, PIC ECCLES, PIC LUIGI AMEDEO, MONT BLANC (Third visit)
AIG. BLANCHE DE PÉTÉRET — Second visit
MONT BLANC — Fourth visit
MONT BLANC . Fifth visit (*via* Brenva arête)
MONT BLANC . . Sixth visit (*via* L'Innominata buttress and Pic Eccles)

In 1928 there were left only Mont Brouillard and Pic Luigi Amedeo, and the Aig. Blanche with the Pétéret arête. I arrived at Courmayeur on July 2, but much against my own judgment. However the miracle happened—the stroke of good luck badly needed, and shall we say deserved—after so much of poor luck borne philosophically. The mountains were in better order than in all the previous August. Lucien Proment was taken on as second guide, and an attempt made at once on the Aig. Blanche from the Gamba Hut. A wind-storm arose, and we were driven out of the couloir of the Dames Anglaises by falling stones. We traversed the Aig. Joseph Croux, however, on the way back, and so got something. The wind rose to extreme violence in the night, but died away by morning. The ascent next day, by Knubel and myself, to the Col Emile Rey and Mont Brouillard from the Brouillard Glacier, has already been described ('A.J.' **40,** 387). It appears to have been the second ascent and the first descent of this couloir.

Next day, with Lucien Proment, the Fresnay Glacier was ascended *via* the Col de l'Innominata, and an attempt made on the Aig. Blanche by Jones's buttress. All went quite well—except that all were damaged by flying stones—until the wind increasing to storm strength when the party was at 3800 m., a retreat had again to be made. It appears to be an interesting and not too hard a route when the Fresnay Glacier is not *in itself* too difficult. It became necessary then to return to Courmayeur.

The rest of our adventures this year have already been described in 'A.J.' **40,** 388–390. The Aig. Blanche was

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traversed, with return to the Gamba Hut for the first time without a bivouac. It was believed then that the route over the Col Eccles down the centre of the icy upper basin of the Brouillard Glacier was new.[7] The ascent, made possible this year, of the Brouillard arête and Pic Luigi Amedeo to Mont Blanc, is believed to be about the seventh only. The Aig. Blanche was traversed by us a second time this year, and continued over the Pétéret arête to Mont Blanc without a bivouac. This was a two-year-old plan, anticipated by a day by M. Brincard, with Armand Charlet, who were the first to dispense with the bivouac on the upper arête.

The ascent of the Brenva arête, and the first descent of the Innominata buttress with a new variation of the route, followed next. The four southern arêtes of Mont Blanc were thus traversed between July 13 and July 25. Truly the gods relented, and after toying with us at first, gave, in the end, most marvellously.

I much hope to add next year the four Aiguilles du Diable: these are coveted as worthy Four-Thousanders.[8]

The whole of these Four-Thousanders have been gained in company with Joseph Knubel. It will have been noted how many failures from strict efficiency there were in the planning. There was indeed comparatively little planning, and that little was constantly disturbed by local bad weather. To make beforehand a programme of the days on which peaks shall be ascended shows a very sanguine temperament. Just as an impression, and without any hope of defending such a state-

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[7] See, however, *A.J.* **12,** 431–8; **40,** 457. Sir Seymour King's party, 1885, seems to have crossed the Col *Eccles*, or its immediate vicinity, in both directions. Mr. Thomas, however, still considers that the King party took the present Col du Fresnay route.—*Editor.*

[8] Other Four-Thousanders, not appearing in the above tables, are:

Punta Gugliermina, 4000 m., *Vallot*; the enormous gendarme on the S.E. arête of the Aiguille Blanche de Pétéret.

Pointe Young, 4000 m., *Vallot*; the first tooth E. of the Col des Grandes Jorasses.

Pointe Croux, 4023 m., *Vallot*; the culminating, or E. peak, of the Aiguille sans Nom, 3989 m., *B.I.K.*

Grande Rocheuse, 4103 m., *B.I.K.*, or 4102 m., *Vallot*, on the E. arête of the Aiguille Verte.

It is understood that Mr. Thomas has issued an *ultimatum* already.

In Switzerland, fortunately, the habit of naming prominent teeth or depressions on ridges has not yet commenced, except, perhaps, in the eastern portion of the Mont Blanc Group.—*Editor.*

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ment entirely, the writer would say that Alpine average weather, from the point of view of the High Alps, is at least 25 per cent. bad. Probably this is an advantage. It introduces a much greater element of 'sport' into the matter—else the collection of the Four-Thousanders might seem to be too much of a business, and too little of a sport. There are indeed two conflicting sides to this game—the sporting side given to it by the great element of chance, and the quite proper desire to exercise even a sport in an efficient way, and not merely muddle through.

A word of explanation is perhaps desirable in regard to any quick 'times' quoted. Deliberate racing on the mountains would be rightly condemned as unjustifiable. Any fast times mentioned should be taken rather as showing excellent conditions and that the members of the party were fit and eager. Ascents were commonly a mixture of rapid movement with prolonged loitering at fine view-points. Thus we often ascended or descended rapidly, but took quite a long time over the whole expedition.

The Spare Rope in Theory and Practice.

By E. R. BLANCHET.

(Translated.)

'MANY British climbers and sailors surely have had a much wider experience in this matter than the writer.'

I should like to borrow for my own, this sentence taken from Monsieur Paul Montandon's paper entitled 'Abseilen,' published in 'A.J.' **33,** 209–14. My principal object in the present article is not a search for novelty, but rather a plain effort to *assemble* observations or isolated remarks already published in various accounts. If one or more of these have not already been formulated, the paper will thus, I trust, find justification. Although I do not wish to borrow from M. Montandon's article, I must nevertheless quote the following conclusions :—

The best method of descending on a doubled rope is that which :—

(1) Requires a minimum of exertion.
(2) Gives the maximum of security.

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(3) Allows the feet to hang free.
(4) Allows the climber to make prolonged stops while descending and to hold on for a moment with one hand only on the rope.
(5) Does not wear out the rope.

The only method fulfilling these conditions is that of *sitting* on the rope, the latter thus exerting friction on at least two portions of the human frame. There are a number of these methods [1]; from all of these I will quote that of Herr Bernet, mentioned by M. Montandon, and another method which I have seen practised often at Chamonix [2]:—

Take the rope (which, from above, falls in front of you) and pass it under the uppermost part of the left thigh in such a way as to be sitting on it. Now raise the rope diagonally in front of the body across to the right shoulder, then pass it behind the neck; bring it back in front over the left shoulder, finally letting it fall straight down in front of you. To avoid rubbing your neck, raise the coat-collar. [Fig. 1.]

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[1] See *Alpinisme*, by M. Casella (Paris, Pierre Lafitte).

[2] If the Chamonix men are in general superior to the Swiss in the use of the spare rope, this is explained by the characteristics of their peaks. Every guide intending to climb in the Mont Blanc Aiguilles should know how to descend *en rappel*, not as a weight controlled by mere physical force, but as a graceful climber, expert through practice, in an effective method. Search-parties, attempts at getting a man out of a crevasse, enforced retreats on new expeditions, would all benefit greatly by practice. In Switzerland and not only in that country, the examination for a guide's certificate does not include knowledge of this branch. The following are a few of the lengths of *rappels* required:—

Drus: The 'Z,' 15 m.

Requin: 'Cheminée Fontaine,' 17 m. and 20 m. (*Vallot*), but 17 m. and 17 m., according to Armand Charlet.

Aiguille Médiane du Diable: 30 m.

Grépon 'Cheminée Knubel': 15 m.; 'Grand Diable,' 15 m.

Sixte Massif: Corne Sud du Chamois de Tenneverge: 35 m.

Dolomites: Campanile di Val Montanaia: 40 m., of which according to 'Tita' Piaz 36 m. overhang, but only the lower two-thirds according to Signor Ugo de Amicis.

Descent from the Winklerthurm on to the Forcella Winkler—when traversing the six teeth: 40 m., all overhanging.

Descent of the Guglia di Brenta on to the *Albergo del Sole*—the terrace preceding the last step in the ascent: 37 m., all overhanging.

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I. Braking on the Rope.

When descending *en rappel*, there is no need to employ great strength of fingers. But the grip on the rope must increase

Fig. 1.

the farther you descend. The brake, very powerful at first, acts less and less as you descend. If M. Montandon rightly warns us against the 'nuisance' of too great friction, I would point out the *danger* of a brake acting less and less and finally failing altogether. We must remember also that many people's hands are weak and that a beginner, naturally impressed at his position, makes at the commencement of the

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rappel, a much exaggerated muscular effort; he is quickly tired and probably gets cramp just at the moment when an effort is really needed. People, like Signor Ugo de Amicis, sliding down a rope, with the minimum of friction, over a precipice of 40 m., of which two-thirds are overhanging, are experts whom it is dangerous to copy, unless you are of equal muscular strength! In conclusion: the climber, *last man on the rope*, is wiser to risk the *nuisance* of an over-braked descent than to expose himself to the *dangers of a diminishing friction*.[3]

II. A Remedy for Insufficient Braking.

This question is easily solved as regards everyone in the party save the last man. As regards the latter, holding the two ends of the doubled rope tightly from below is a most efficient brake. Even a slight holding of the rope is effective.

The climber, however, *without assistance*, either from above or below, has nevertheless a means of increasing friction by a method which he should have studied previously. First, he should be able to free his left hand while in full 'flight.' Then he should grip the two ends of the rope beneath him and should give an extra turn of the rope round his left thigh. [Fig. 2.]

I have succeeded in descending 8 m. on a doubled rope down a vertical step, keeping the left hand *continually* free. Moreover, it is possible to pass the rope over the small of the arm (elbow-joint).

By means of this doubly reinforced brake, one can stop and free *both hands*, the feet being at right angles against a perpendicular and smooth face. [Fig. 3.]

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[3] *N.B.*—If the brake depends partly on the number and extent of the points of friction of the rope, it depends also on the weight of this latter, that is to say, on its length and thickness. I have employed a spare rope of 82 m. and 11 mm. thick. It weighed a little more than 7 kilos. Friction was so powerful that when commencing the descent, to go down at all, I was obliged repeatedly to lift with one hand the rope off my shoulder. It was impossible to 'slide' the rope in the usual way. Practice will make perfect in this method. Nevertheless, at the end of a descent *into space* friction is barely sufficient. The earlier exertion does not tire the same muscles required later to grip more and more firmly on the rope as you gradually descend.

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III. Manœuvres in Exceptional Instances.

It might happen that the climber is forced to descend *en rappel* a length of step too great for a doubled rope.

In this case, having fixed the rope, you must descend by the above methods, just the same as with a doubled rope. The

Fig. 2.

only difference is that instead of gripping, say, 22 mm. of rope, you will grip only 11. The necessity, consequently, of increasing the number of points of friction becomes obvious, as pointed out in Section II.

IV. A Warning.

It may prove dangerous for a climber *other* than the last man, about to make a *very long* descent into space, to be

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roped in the ordinary way. His body *might* begin *to revolve* round and round. The ordinary or climbing-rope may frap itself round the spare rope, causing the climber to become quite stationary. Signor Ugo de Amicis [4] in his famous descent

FIG. 3.

of 40 m. on the Campanile di Val Montanaia (first third vertical, last two-thirds overhanging considerably), contrived to avoid stoppage, although roped in the ordinary way and spinning round and round.[5]

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[4] See *Petits Hommes, Grandes Montagnes*, p. 170, by U. de Amicis (Dardel, Chambéry).

[5] The only means of avoiding this stoppage are *either* to unfasten the knot—hardly ever feasible—*or* to cut the ordinary climbing-rope. If a careful and watchful climber keeps cool, he should

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Others, like him, have been able to avoid this peril. In such cases what particular factor occurs which did *not* occur in my case? I am speaking of a descent of 40 m., of which 29 m. were completely in space. Was it my fault in that I thought myself *obliged* to pass the climbing rope through the ring holding the spare rope, a factor obviously tending to keep both ropes close together? (See *later*.)

V. Supplementary Tools required.

It is preferable, often obligatory, to fasten a *rope-ring* round the hitch supporting the spare rope.[6] Shop-made rope-rings are often too small. It is better to carry some rope lengths and make the rings oneself on the spot. M. Montandon has described and illustrated (by Herr Fahrni) a method of drawing down the rope-ring after use ('A.J.' **33**, 212, 214).

A hammer and drill are useful to cut a groove round the boss used as a hitch for the rope-ring. Care should be taken that the ring remains in the said groove. Sometimes it is useful to smooth out any projection likely to wear out or even cut the ring.

Iron or even wooden pitons can usefully replace the rope-ring, but this depends on the nature of the rocks. The former should have a metal ring. Wooden wedges fixed against the iron piton render the latter immoveable. Sometimes the drill must be used to make a hole for the piton. When descending over a bergschrund, an ice axe need not be sacrificed provided a wooden piton is available.[7]

VI. Necessary Precautions.

Loose rocks should be cleared away from the neighbourhood of all hitches. Chimneys should also be swept of any tottering boulders, as the rope is liable to disturb these even when the climber has not touched them. To avoid superfluous risk I always stuff my hat with handkerchiefs.[8]

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doubtless be able to avoid this frapping, but loss of power and time is inevitable.

[6] *N.B.*—Knobs of rock wear out the rope and prevent it running freely when trying to pull it down after you.

[7] An *aluminium* piton and ring is used by some German and Austrian mountaineers.—*Editor.*

[8] I have seen a well-known A.C. carrying, *on occasion*, the unexpended portion of the day's rations, his spare stockings and Shetland jersey, etc., in his hat!—*Editor.*

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As regards the actual 'placing' of the spare rope, the following points should be observed :—

(1) Straighten out the rope strands.
(2) Pull down the rope on the side where the knot is made.[9]
(3) Do not let go suddenly of the spare rope on landing, a rope stretched by a very long *rappel* is liable to spring into lumps and knots likely to hitch up.
(4) Be careful of the little disc fixed, in Switzerland, on the 'official' guides' ropes; inspected yearly in Valais.[10]
(5) If, in spite of every precaution, the rope jams, change your position by getting farther away and, if possible, climbing up a bit.

In the case of very long *rappels* and especially when a serious overhang may prevent climbers from seeing or hearing each other, it will be wiser to have some previously arranged short and sharp signals for the necessary manœuvres.

VII. Is it possible to Climb up a Vertical or Overhanging and Holdless Step by means of the Spare Rope?

Without wishing to quote a gymnast's feats—and these, moreover, quickly attain their limit of height—I will mention the note published in *La Montagne*, 1928, p. 322, by Monsieur E. Gérard. M. Maurice Paillon, Editor of *La Montagne*, has kindly allowed me to reproduce it in the Alpine Journal. I have no experience of this method, but I should not be up to date were I to neglect mentioning it :—

'It is perfectly simple to climb up a smooth rope of 10 mm. diameter. Have 3 rope-rings from 70–80 centimetres long, of plaited cord (of 5 or 6 mm.), one in an easily accessible pocket, the others in the rucksack . . . Fix the first of these rings on the spare rope by means of the knot [Figs. 4 and 5] and place one foot in the ring, thus supporting the *entire*

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[9] For long *rappels* two ropes have sometimes to be fastened together. Be very careful when descending of the moment when you encounter this knot; it may take you by surprise and cause trouble. If the ropes be of equal length, the passing of the knot over the body occurs as you take off. But with ropes of unequal length you will have to be careful of the knot just at the worst moments.

[10] [?] We were quite unaware of the existence of this disc.—*Editor.*

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weight of the body. This knot, properly fixed, gives such purchase that it cannot possibly slip.

'Now, supported not only by this ring, but also by the loop of the climbing-rope, place at your leisure the other rings, arranging them in the same way, 50 cm. to 1 m. above the first; place the unemployed foot in the middle ring and insert, through the upper ring, your head and arms.[11]

'All you have now to do is to loosen, push up and retighten in turn each ring, thus climbing up without any trouble at all.'

Of all my descents *en rappel*, that of the E. face of Pointe Beaumont[12] remains in my recollection as the most instructive.

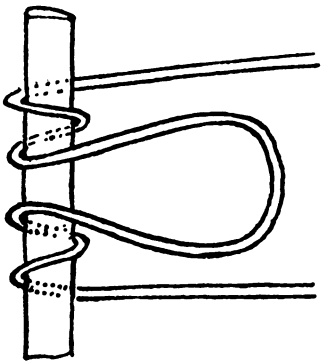

FIG. 4.

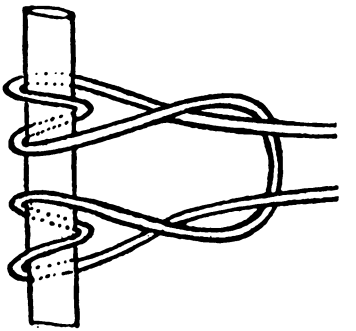

FIG. 5.

I am giving a full account in support of several of the theories enunciated above:—

Our party was composed of Baroness Ch. de t' Serclaes and the writer with the guide Kaspar Mooser of Taesch. The day, October 6, 1928, was gloomy and inclined to rain. However, we chanced the weather and the expedition was successful.

The E. face is some 200 m. high, the lower three-fifths of which is steep and the upper two-fifths perpendicular or overhanging. The face is dominated by a secondary top close to the summit and hardly lower than the latter.

Among the boulders composing the secondary top—our point

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[11] This appears to be a new form of capital punishment!—*Editor.*

[12] *A.J.* **40**, 391–2. *Pointe Beaumont* above Finhaut, to the E. of the Col de Fenestrale, was known as the Dent de Fenestrale till its ascent by M. Paul Beaumont. The original name, 2582 m. = 8472 ft., is found in the Siegfried map.

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of descent—only one proved quite firm. We fixed a hempen ring round it through which to pass our spare rope, and were obliged to throw down a large number of loose stones. These fell silently over the vertical face and then crashed noisily on to the lower slopes, whence, becoming visible they sped like lightning or described curves on to the rock-strewn Comba Rosse, that deserted glen lying at the foot of the wall or face.

My spare rope was originally 11 mm. thick, 82 m. long, and weighed little more than 7 kilos. I had, however, allowed Mooser to cut it in two for his reconnaissance in September, with Viktor Imboden, of the N. face of the Matterhorn.[13] Its weight and especially its bulk when rolled up in the rucksack would have been dangerous on the pitiless slabs of that face of the Matterhorn. The two portions of the rope, respectively 37 and 45 m. long, were used by us as spare ropes for the Pointe Beaumont, lashed together for the longest *rappel*. Including the other ropes, we were carrying 152 m. of rope on that day.

Threatening signs of thunder and fog as well as the late hour combined to make us try and save time; accordingly it was decided that Mooser, relying on the technical powers of the party, should descend as first man and prepare the hitch for the second *rappel*, Madame de t' Serclaes and myself descending meanwhile.

11.45. After a steep section of 6 m. Mooser disappeared from our sight, the descent for some 14 m. being perpendicular or even slightly overhanging. All this we soon discovered when it came to our turn to rejoin him at 11.55. Our landing-platform was just sufficiently large and quite convenient. The second rope-ring was already fixed round a flattish boulder, on the outer edge of the platform, in which Mooser had cut a groove. Never, at Chamonix, have I seen more careful work and never also have I seen any similar attempt in the Aiguilles to descend such a precipice. There is no risk, with Mooser, of a rope-ring slipping or being cut.[14]

We had to lean far forward to view our next platform, very

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[13] *A.J.* **40**, 404.

[14] The porter of another party, during my traverse of the Drus, was descending as last man. The spare rope slipped and the careless and hurrying Chamoniard fell. His employer and the guide held him while falling past them, a handy snow patch breaking the fall.

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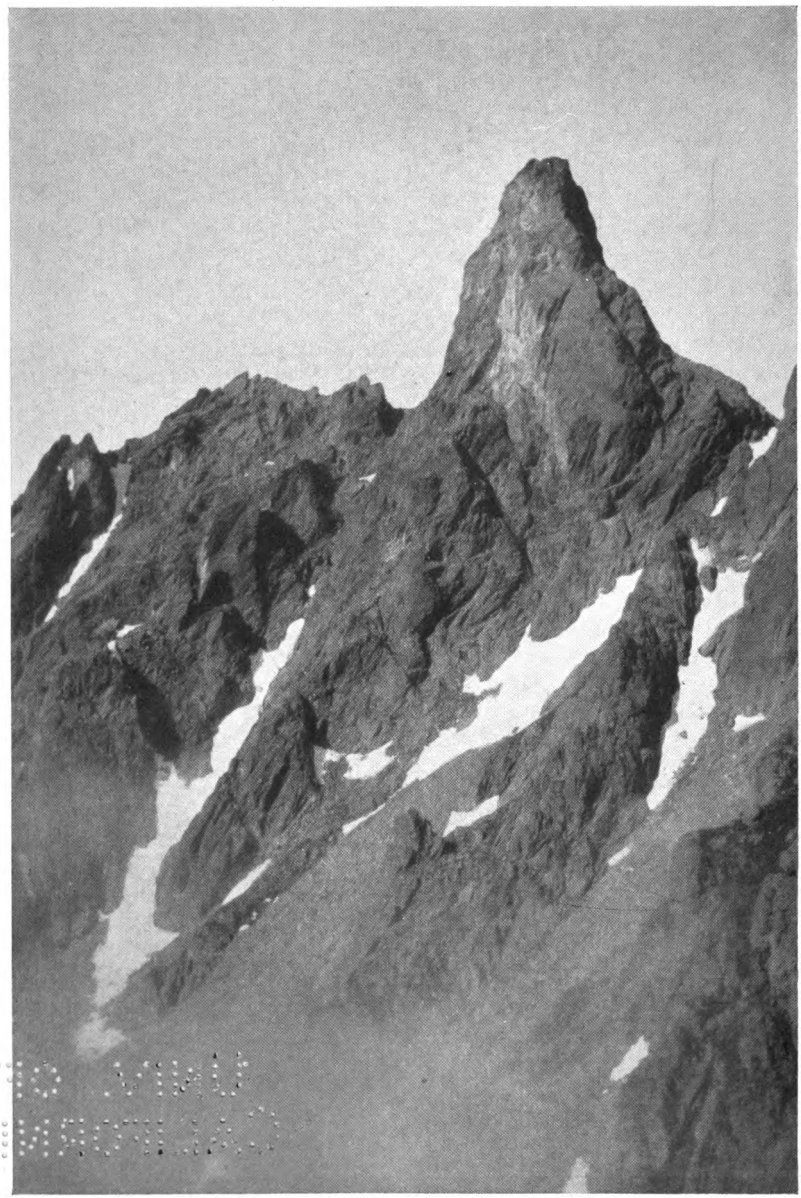

Photo. E. R. Blanchet.

POINTE BEAUMONT, E. face.
(COMBA ROSSE glen in foreground.)

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unattractive it looked too, with its steeply inclined grass slopes powdered with snow. This second *rappel* measures 15 m. and is more overhanging than the first. However, our feet still touched the rock. At 12.30 we were once more united on the unpleasantly slippery grass slopes. (This is an ideal spot for a bivouac, according to Mooser, compared with the tiny foot-holds where, standing upright, with his sack on his back, he had passed 7 hours of the night with half-frozen hands in threatening weather on the N. face of the Matterhorn, with the cheerful prospect of descending, by a series of *rappels*, 400 m. of steep and ice-glazed slabs!) Held by the rope, Mooser bent over a deep gulf formed by an overhanging wall. Beyond a tiny and far-distant platform, there was apparently another overhang. But to our right, a black and very steep slab sloped down towards the S. giving out, after 6 metres, into the blue. Mooser risked the descent while I bent myself double in holding him. The prospects appeared better to him from there; at the top of a snow couloir, some 35 m. lower down, he could perceive a possible and spacious platform. Moreover, he reported that further on the wall appeared to ease off and become more broken. The slab, however, overhung like the eaves of a roof in such a way that everything between him and the platform remained hidden.

There was no hitch available for the rope. Nevertheless, about a metre above us—at the base of our second *rappel*—we disclosed an evil-looking gutter or crack. We drilled two notches in the edge of the gutter some 20 cm. apart, fixing our third rope-ring in them, strengthened by an iron piton planted in a drilled-out hole. Without our precious drill we should have spent here, undoubtedly, the rest of our lives. We knotted our 47 and 35 m. lengths together and slipped our 80 m. rope (no longer 82 m. because of the knot) through the ring. A long and very awkward business in our too tiny and uncomfortable workshop.

Mooser was obliged to make great efforts to get into a taking-off position and still greater exertions to lift, each time he wanted to descend, the heavy rope and slip it over his neck duly protected by his turned-up coat-collar.

Soon the knot causes further complications. The scratching of boot nails suddenly ceases, Mooser has passed over the eave of the roof and only the quivering rope shows henceforward that he is still descending. The overhang must be tremendous: if his feet were still touching the rock we should hear a *diminuendo* of boot scratchings. The silence is positively

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startling, no answers come back to my shouts. Madame de t' Serclaes and I do not exchange a word and some seven minutes elapse. At last, far away, a voice, or rather a thin semblance of a voice, reaches us, but all too incomprehensible. Then, Mooser having no doubt changed his place, I hear clearly a 'Fürchterlich,' an astonishing expression on his lips chary of theatrical expressions, more especially in really critical situations.

Tied on to the climbing rope which, together with the spare rope, I had slipped through the ring, Madame de t' Serclaes now uses her utmost powers to start off. I pay out the rope gently, hardly holding it at all—as she had begged me. After a sudden jerk over the eave of the roof where the black slab ends the speed of the descent gradually increases. The wait appears interminable to me. Shouts in two languages, confused by the echo and absolutely incomprehensible, cause me suddenly to tighten the rope. Is Madame de t' Serclaes overcome by cramp or weakness? I keep on pulling the rope. Ought I, perhaps, to loosen it? The long following silence frightens me almost more than the shouts, but I still grip the rope with surprising ease.

At last, a whistle. My companion had warned me that she would thus announce the moment when I was to begin my own descent. I let go the climbing rope, it slips through the ring and disappears.

A moment later and after the slab, as my feet slip into the void, my arm bumps violently against the rock angle and I am launched, like a spider, completely into space. Never have I seen anything like this emptiness; the wall is far away, soon several metres distant. My companions appear like Lilliputian dots and the strands of the rope like diminutive strings. These hang straight over the abyss towards a snowy crater, the head of the precipitous couloir. I am slowly revolving, but the pace soon quickens. The distance covered by the spin becomes greater. Three times I am compelled to hold on with the left hand only, while I reraise my coat-collar and replace the rope searing my neck. I continue in great sweeps while the wall—there are 29 m. of overhang—grows nearer till at 5 m. from the landing place my feet grate uselessly against the holdless rock. The landscape ceases to revolve, Mooser from below seizes the rope and draws me beyond the crater to a platform which he himself had been forced to attain by a pendulum-like swing. This action of his reacts on me like the vigorous application of a brake and is

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Photo. E. Planinšek.

ŠKRLATICA.
N.W. face.

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more of a fatigue than a help. My descent had taken 6 minutes and the hour is 13.40.

Madame de t' Serclaes had literally just avoided strangulation by the *climbing*-rope. At each swing the said rope twisted itself round the spare rope, and she saw herself soon brought to a complete full stop. When I heard her call out, my actions, owing to the said frapping motion, had ceased to have any effect on the rope: of this I had had but little doubt. The knot never tautened when I began to pull hard. Thanks to this fact, Madame de t' Serclaes contrived to undo it and also, owing to the luck of the 29 m. overhang being nearly finished, her feet could be pushed at right angles against the vertical rocks, thus relieving her when almost at the last gasp.[15]

Below us the face now appeared broken and less steep. A steep spiral rib led us out on to a boss, flanked to the left, N., by gently sloping slabs. We had here once again to use the spare rope on account of sopping snow clinging incoherently to the smooth slabs. Instead of continuing the now uninteresting descent to the barren Comba Rosse and its dreadful stones, we pulled out more to the N. along slippery rocks and snowy ledges, attaining a snow couloir down which streamed much water. Ten minutes later, having scaled the couloir, we reach well-known ground at the N. foot of Pointe Beaumont.

[Figures 1, 2, 3 were drawn, very kindly, by Mr. H. G. Willink from photographs and material supplied by M. Blanchet.]

The N.W. Face of the Škrlatica in the Julian Alps.

By STANKO TOMINSEK.

THE Triglav is king of all the adjoining mountains including the Škrlatica (*Scharlachwand* = Scarlet Crag), which, although slightly lower, is in no other respect much inferior. The Triglav arrogantly displays its superior height, while the Škrlatica conceals its beauty, surrounded as it is by an array

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[15] Armand Charlet considers the *rappel* made by him and me on the Corne Sud de Chamois de Tenneverge, 2526 m. (October 4, 1925, *A.J.* **37**, 365–6, with an illustration), as the most difficult he has made. But it bears no comparison to that of Pointe Beaumont.

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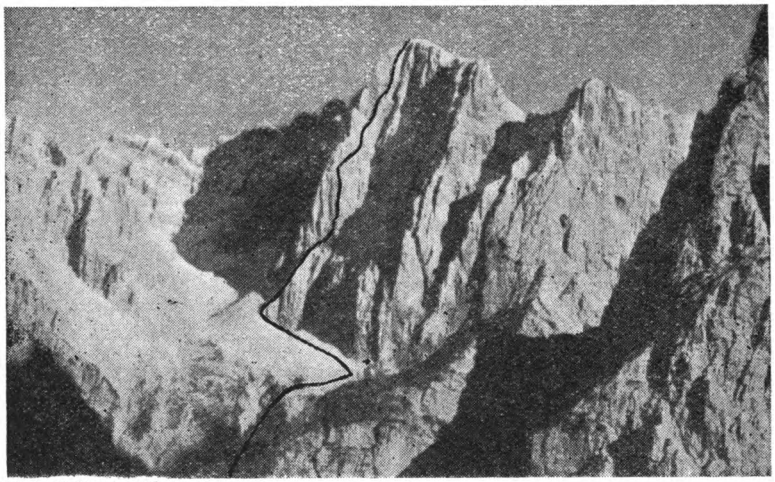
of satellites. Towards the N. lies the rugged Martuljek group; towards the W., Rogljica (*Little Horn?*), Križ (*Cross*) and Stenar (*Stonewall*). Only from the Vrata (*Gates*) and Krnica Valleys does the Škrlatica stand revealed in all its grandeur. Majestic and forbidding, this mountain defied all human approach until Dr. Julius Kugy, with his admirable guide Andrej Komac, succeeded in reaching the summit. The many failures, bivouacs and troubles this victory cost them have



Photo, S. Tominsek.]

N.W. Face of Škrlatica, showing 1927 Route.

been described most delightfully by Dr. Kugy in his book 'Aus dem Leben eines Bergsteigers' (p. 40 *et seq.*).

The Škrlatica looks finest from the N. Years ago, as I studied the N.W. face from the neighbouring Visoka Ponca (*Great Noon*, in the Martuljek), I was seized with the desire to achieve its ascent by this face. I looked long and carefully but without coming to any conclusion. In dizzy perpendicular slabs the peak rises from the Alpine glen called Velika Dnina (*Great Dene*). There are no ledges visible to the eye, only smooth rock with here and there small fissures. They might be chimneys or cracks, perhaps only shadows of corrugations in the rock; it was impossible to make it out from a distance. Most notable are two perpendicular buttresses rising from Velika Dnina to the summit; the left ends just below the summit, the right merges into the W. arête of the Škrlatica. It looks as if these buttresses were an architectural contrivance

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of nature, supporting the peak lest it should topple over. So far as I could judge, the greatest difficulty would lie in finding a traverse across the lower part of the face to the scree in the face between these buttresses. Time and again, summer and winter, I studied the face from Vršič, whence you obtain the best view of the Škrlatica, but I was unable to decide beforehand upon any route up it.

Since observation from a distance failed to reveal any possible line, I decided to study the face at close quarters, from Velika Dnina, and, supposing I were to find a feasible access to proceed with the climb. It was clear, however, that the face was going to prove a very tough proposition.

So on July 16, 1927, at 6 A.M. we set out on the road from Kranjska Gora to the Krnica; Miss Pavla Jesih, Jože Čop, Danilo Martelanc and I. Certainly four is too many for a difficult climb, but the Škrlatica was at stake and every one of us was anxious to be present in the first ascent of its N.W. face. In order to give each one of us his chance we agreed to take it in turns to lead. This arrangement would also render impossible any eventual insinuations that some member of the party had climbed the face merely because of the presence of an excellent leader!

As far as I am concerned, I do not care whether I lead or not. For a difficult climb all must be first-class, especially in tackling unknown ground, each climber having his own special allotted task. As a party of four is bound to be slow, especially on difficult rocks, we decided to bivouac in Velika Dnina, close under the mountain. We stepped out briskly along the highroad leading to Vršič. At the second bridge we took the cart track leading up the Krnica Valley. The path follows the course of the Pišnica (*Pishnitsa*), gurgling and murmuring as it hurries down to the Save. Vršič receded on our right, and, on our left the Proklete or 'Ferdamane' (*Accursed*) Ledges and the Špik. Suddenly the Škrlatica hove into sight from behind the Gamšica on the left. We stood still and admired it. Above the sombre green of the forest rose the Škrlatica, glowing crimson in the light of the sunset, scored with shadows of deepest violet. It looked like the magic abode of mountain spirits.

Time pressed. We did not know the way up the Velika Dnina, we only knew that it had been marked years ago and that the marks had worn off. The path winds slowly upwards through the woods. At last, as we neared the scree under the Križka Stena (*Cross Crag*), we divined, rather than saw, our

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way turning off to the left. It was all grass-grown. Within 10 minutes we came to a very primitive wood-cutter's hut. Now we knew that we were on the right way, for this was the so-called 'Villa Griža.' It is neither pretty nor comfortable. Its furniture consists of a shelf covered with fir branches by way of bedding. At a pinch one could spend a night there, but we were anxious to get on.

A little way past the hut we lost the path. We were now in the dry bed of what is sometimes a torrent descending from below the Mala Ponca (*Little Noon*). We wasted no time in hunting for the path, but followed the watercourse upward. The going was far from pleasant; innumerable spates have piled up enormous boulders in the watercourse and we had to make our way between them. We had to keep to the watercourse as the banks are densely wooded on both sides. As we got higher the trees became more sparse. On the other hand the banks became steeper, turning gradually into precipitous cliffs. It was getting dark. We were glad when we again found traces of the marked path, which we then followed. After a while it bore to the left, towards the Lipnica. So we got back into the gully. The Špik and Mala Ponca loomed indistinctly above us in the dusk; from under the pass between them a steep snow-filled couloir stretched towards us like a monstrous tongue. Our gully was between cliffs; on the right the spurs of the Gamšica, on the left the cliff marking the junction between the Velika Dnina and Krnica Valleys.

Presently we reached the snow. We made quicker progress there than among the boulders. But how to get into Velika Dnina or to reach it over the cliff? We had neither crampons nor axes [1] and therefore did not care to tackle the couloir because of its extreme steepness. The cliff presents a sheer face of something over 100 metres, so we stuck to the snow till the rock on the right appeared a bit more accessible. We approached it over a ledge. We were in luck as we got on to an easy bit of rock and made quick progress. In a little while we were among dwarf pines.

Our one worry was now where to find a suitable place for a bivouac. After some search we hit upon a ledge about a yard wide under the shelter of a small rock. We doffed our sacks and set about collecting dry brushwood, no easy matter, as we were on steep terrain where every bit of our fuel had to be climbed for. All the same, the four of us succeeded in

[1] (?) see later.—*Editor.*

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getting together sufficient dry stuff to last the night. We then prepared our bivouac, widening and levelling our ledge with stones at the place where we proposed to light our fire.

Then Jože built the fire. His efforts were soon rewarded, and high leaping flames cast their fitful mysterious light over our surroundings. It would have been jolly to sit round the fire so as to enjoy its warmth equally. But that was impossible, with the cliff on one side and a steep drop on the other. Pavla fared best, as she sat on a convenient stone and leaned against the cliff which happened to have a rounded dent there which just fitted her back. The rest of us were not so well off. A projecting bit of rock poked me in the back, Danilo's long legs dangled over the precipice, Jože sat on the brushwood. After supper each of us settled down.

The night passed and day dawned slowly. The outlines of the mountains grew more distinct, the grey light increased until, finally, morning conquered darkness. We rose and stretched our stiffened limbs. An unpleasant surprise awaited us. Over night the sky had become overcast and clouds were growing denser. As we made ready to start it actually began to drizzle. A fine beginning; and our spirits sank. Climbing in the rain is no fun and dangerous to boot. The most dejected of us was Pavla when we discussed the advisability of merely studying the face in case of bad weather. To give us courage, she produced from her sack a flask of brandy meant for consumption on the summit and handed it round. We drank it all, but became none the more enterprising.

We made a sluggish start, no one feeling enthusiastic. We got back among dense dwarf pines. Slowly we wrestled through it, sleepy and cross. Within half an hour we were on the big scree under the face. Now it began to rain; we sought shelter under a leaning boulder lying isolated on the screes.

We employed our enforced rest in studying the face. From here you can see only the lower part, as the upper part recedes. This lower part is smooth and sheer, seamed from top to bottom by three chimneys. As the rain soon stopped we examined these at close quarters. The first, right hand, chimney is wide and quite red—a sure sign of rotten rock. It is too wide for wedging tactics. The second rises from above a little snow slope. Sound rock, but smooth and very few holds. Some 50 m. up, where the chimney begins to overhang, it looked as though a ledge might lead off on to the face. As a matter of fact, you see nothing but a straight

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line, but as we noticed a dead larch tree on it, we deduced a ledge, albeit a very exposed one. Between the snow slope and the face yawned a deep chasm; if we found no better access elsewhere we might try our luck there. The third chimney proved inaccessible.

In this way we skirted a good bit of the face. Suddenly the clouds broke and the sun shone out. This put new life into us and we went on, still examining the rock. At last we were near the blending of the N.W. face into the N. face, close to the foot of the left-hand buttress. Perpendicular up to this point, the rocks form here a series of steeply inclined slabs. From a distance they looked smooth and impassable, but at close quarters appeared so promising that we tackled them at once.

We started on the face at the level of the ridge leading from Gamšica into Velika Dnina. We climbed all together and in boots, advancing with amazing speed. Each chose his own route; the slabs were seamed with little chimneys, holds were good and sound, so that not even the short overhangs which we had to pass gave us any difficulty.

We began by climbing straight up and then diagonally to the right to a small ridge and by that to a convenient débris-covered ledge. There we all met again. We had climbed a good 100 m. As we looked round to the left, the face towered above us, an unbroken cliff of pure red crowned with well-marked pinnacles. To the right the face leads into a fairly steep ridge. We put on *Kletterschuhen* and traversed to it. The ridge rises to the left above the wide and steep bank of débris in the middle of the face. From there we perceived that there was still a stretch of smooth and impassable rock above the chimneys already described.

From here we could overlook the whole of the N.W. face of the Škrlatica. To the right of the left buttress the rocks fall away to the scree below in smooth, rounded and quite impassable overhangs. The same applies to the right hand buttress. The left hand buttress, on which we were standing, looked more promising. To the left, the rocks were sheer and smooth, but straight ahead a long and narrow chimney appeared most promising. This chimney leads towards the summit and ends in a little notch between the face and a small pinnacle. We entered the chimney. It was narrow and shallow, but had so many reliable holds that we climbed easily and independently. The length of this chimney is about 100 m. There are several steps and a few short, not

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difficult, overhangs. In places we had to wedge, which was unpleasant because of our sacks. Under the notch the chimney was blocked by a chockstone. With difficulty we took to the face on the left and hoisted ourselves over it. Above the chockstone the chimney eased off, ending in the notch connecting the face with the pinnacle on the right.

According to my aneroid we were now at a level of 2140 m. Our notch was scarcely half a metre wide and a few metres long. It springs straight from the buttress, merging in a low pinnacle; on both sides the rocks fall away almost perpendicularly. We had climbed up from one side; on the other it meets the débris-slope already referred to, in the middle of the face. Above us, the buttress was vertical, but broken up by a series of short chimneys. The buttress itself finally merges into the face proper, forming an obtuse angle at the junction. This junction is marked by a long narrow chimney ending below the red summit-cliffs of the Škrlatica. This chimney might be reached by a narrow little ledge, but not being able to make out whether there was any practicable egress from the chimney, we decided in favour of the series of chimneys above us. Before quitting this point we built a little cairn.

The series of chimneys above us were inaccessible direct from the notch. To reach them we had to cross a smooth boulder some 10 m. high. As the rock was sound, and holds although scanty, were good, we soon climbed it. We were now in a chimney set at a dizzy angle. All these chimneys were of the same type as those below the notch. They were from 10–30 m. high, separated one from the other by little shelves.

We had climbed some 90 m. in this fashion when the last chimney, smooth and overhanging, compelled us to take to the face on the left. After a few metres of open rock we reached a small scree patch at a height of 2240 m. There we halted just long enough to build a cairn. The angle of the face now eased off a little; by an easy chimney and partly by a crack we reached a second scree. To the left a pinnacle stood out sharply against the sky; to the right the face was split by two long narrow chimneys. To the west the view was glorious. There you see Škrlatica in all its rugged beauty; a vast mass of smooth, often rounded and overhanging slabs. Out of the piled-up rocks on its W. ridge nature has created the semblance of a monstrous rhinoceros climbing upwards.

From the scree we passed by a steeply-inclined crack to a

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new part of the face. We entered a long red chimney of brittle rock. For fear of falling stones we had to climb this one by one. The chimney ended in a pointed rock jutting out straight from the face, further progress being barred by a smooth slab inclined at an angle of over 70°. A foot-wide fissure led up it and, as the edges of the fissure offered no apparent holds and was much exposed, we roped, Danilo leading.

Progress proved easier than anticipated. There *were* good hand-holds and we could wedge our feet firmly. After some 10 m. of this we stood on a scree just under the crest of our buttress. Above us was an array of little turrets of all sorts of shapes and sizes. The entire crest bristles with them. It would have been an easy matter to climb the buttress; but there would have been no point in doing so as it soon splays out into the vertical face proper of the Škrlatica.

To the right above us rose the final wall of Škrlatica. At first glance it was clear that the worst of our task was yet before us. Apparently there were scarcely 100 m. between us and the summit; but my aneroid gave us an altitude of only 2440 m., so that we had something like another 300 to climb. On reporting this to the others they kindly advised me to chuck the barometer over the cliff so as to prevent it pulling our legs! The rock was most forbidding: to the left perfectly smooth, overhanging in places—one gigantic slab. Progress was possible only on the right by a series of chimneys seaming the lower part; these, however, soon end in a rocky recess. The character of the face is the same as that of the Špik, N. face.

To reach the chimneys we traversed to the right under the ridge to a crevice, not specially steep, but brittle rock. This led us to a steep, equally rotten, chimney. After climbing some 50 m., we traversed to the left to another chimney where the rock appeared sounder. It certainly was, but, to make up for it, holds were so small and scanty—scarcely sufficient for one's fingertips—that climbing became a very slow business. A little above us the chimney branched. I chose the right-hand branch, which ended presently in an overhang barring my further progress. So I traversed the exposed face back to the almost vertical and rotten left-hand chimney. It had this advantage, that at intervals it widened out into dark platforms providing good places for rest and anchorage. All the same it proved very difficult to negotiate because of the overhangs under these platforms and lack of holds; moreover, it was too wide to wedge. At the second platform I noticed a

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projecting rock on the right. It seemed to be a good place whence to survey our prospective route ; I accordingly climbed it, crossing some very exposed ground to do so. The others followed. This promontory proved just large enough to accommodate us comfortably.

It was now about 1 P.M. Although we had eaten scarcely anything, we turned against food. We did not stay long, using our rest for observation. We were again placed before an alternative : we could either continue by the chimney on the left (which, however, inclined to the right above us) or follow a narrow little ledge down into the other chimney apparently blocked at its top. I rather preferred the right-hand chimney, but my friends decided in favour of the route we had been following.

So far I had led, but now yielded my place to Pavla whose turn it was to become leader.

Our left-hand chimney bent gradually to the right, so that the upper part was directly over our heads. Pavla endeavoured to gain it by climbing straight up. Just above us the rock overhung and there being no holds within reach, Pavla used Danilo as a ladder. Standing on his shoulders she at last succeeded in reaching a hold ; with considerable effort she swung herself up over the overhang and disappeared from view over the edge. There she must have encountered considerable difficulties, because she made very slow progress. Presently she informed us that she could get no farther, as she could find no holds and could barely cling to the rock. She asked Jože to support her feet. With Danilo's help, Jože was presently close below her and supported her feet with his hands. But as the rock is all but vertical and holds were diminutive, Jože had to drive in a piton for his own safety. He then supported her, and, with this reliable foothold she was able to get over the danger spot. Still her difficulties were not over, and Jože had to support her feet with his[2] axe when beyond the reach of his hands. At last she reached a little ledge where she could take breath after her efforts. She deserved it, because her performance on this step was a veritable work of art. From the ledge she secured Jože and then went on ahead, belayed by him in turn.

Danilo, the sacks, and I remained below. We could not even see the leaders because they were hidden by the overhang.

[2] See, however, *ante* ; presumably the short ice-axe used in the Dolomites.—*Editor.*

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Only the rope, slipping yard by yard through our hands, told of their progress. They had already used up nearly two-thirds of Jože's 50-m. rope when they called to us to send up the sacks. To save time, we tied all these together, except mine, and then fastened our spare rope to the sacks. This we did so as to be able to steer the sacks from below in case they got caught. It was a slow business hoisting them up; every moment they would catch and have to be dragged up or down in order to free them. At last the sacks were up and Danilo could follow.

I was now alone with my sack, from which I refuse to be separated ever since the day when, being hauled up the Prisojnik, it had clattered down the precipice with all my food and boots. Being the last, I had nobody to help me across the overhang. As it is not my habit to rely on the rope and I always climb as if I were unroped, it took some time before I could get over that step with the help of imaginary holds. Above the overhang the rock eased off a little, compared to the bit just passed, but the angle was still something like 80°. Small holds made climbing possible. Another 10 m. took me to the little ledge where Pavla had first halted. From there I traversed on the face to the concavity into which our chimney merged. Here the left face meets the right at such an angle that the distance between them is more than a metre. This concavity continues straight on thence towards the summit. Before reaching it, an icy rain began to fall quite unexpectedly. What that means in rock-climbing, everybody knows. Even when dry, difficult rocks take up a mountaineer's attention and energy; how much more so, when it is wet and with sodden climbing-shoes on slippery stones! The rain took us absolutely by surprise. While climbing, we had not had time to notice the weather, all our attention being given to the rock. I hurried so as to catch up the others. There were still some 10 m. between me and the concavity and I was pretty wet when I reached it. We were disappointed in our hope that the ground beyond would prove easier. At the place where two faces meet there is usually some sort of fissure replacing holds; here there was nothing and we had to climb as if on open rock. At last the face eased off, forming a horizontal downward sloping ledge. Beneath it the rock bulged outwards. The ledge ended in a small inclined recess affording good anchorage if you could brace yourself into it. Here my friends waited for me, seeking shelter of sorts from the rain.

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We dared not linger; Heaven alone knew what was still before us. It was so cold that sleet mingled with the rain. We had to be quick, lest sleet or snow should cover the rocks. Our recess opened out on to a narrow ledge merging into the face after a few metres. Above it was a rounded overhang some 4 m. high. This we had to get over; not a hold of any sort; no single person could negotiate this bit. So Danilo as the tallest [3] stood up on the ledge. Pavla, as the next in height, climbed on his shoulders and tried to find a hold. Jože and I each held one of them from the recess. Pavla on her perch strained and clawed about, but without success. A critical moment followed: as she stretched she slipped, and already I thought she had gone and tightened my grip on the rope, but somehow she managed to get astride Danilo's shoulders and slide thence on to *terra firma*. It was a marvel that she did not lose her balance and fall backwards, in which case she would probably have dragged down Danilo in her fall. But she was in no wise discouraged by her mishap. On the contrary, she was all the more set on getting up. Again she climbed on Danilo's shoulders, and, as that did not suffice, on to his head. At last reaching a hold, she hoisted herself up over the overhang, Danilo supporting her feet; as the face turns off to the left, presently we lost sight of her. After a bit she called out for Jože to come up and help her, as there were no holds. Like a cat Jože climbed up with Danilo's help and tried to assist her, but as his own foothold was so insecure that he could scarcely keep his balance, Danilo was obliged to follow.

Now we got into difficulties with the ropes. Pavla and Jože were at opposite ends of a doubled rope which I held by the middle; in addition, I held Danilo by the other rope. As I could not have supported the double weight in case of a fall, I drove two pitons into the recess, connected them with a spring-hook [4] and passed the rope through that. Now I had to make the third man secure; I did not feel at all easy in my mind as I squatted in my recess. As each rope was doubled, I had six ropes in my hands. Gradually the ropes got so badly tangled that I could no longer tell which held which, and could only find out by giving a tug. On the top of all that it rained till the rocks streamed. At last Pavla and

[3] Mr. Martelanc is about 6 ft. 6 in., Miss Jesih is exceptionally tall for a woman.

[4] *Karabiner, A.J.* **37**, 282.

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Jože got over the bad step and Danilo came back to me to help me straighten out the ropes. Jože's rope grew too short and we had to eke it out with our spare rope. He and Pavla were certainly 50 m. above us before they found a place for the sacks.

From behind my back, where I had wedged them, I handed two sacks to Danilo who made them fast to a rope. Then followed the tiresome piloting of the sacks up the rocks. Once, as they got stuck, with Jože tugging with all his might, a sack —impossible to tell whose—came crashing down over our two heads, describing a fine arc in its fall. A nice business, but each of us hoped that it was not his! That the rest might not follow suit, Danilo climbed up the rope in order to direct them midway; but finding no suitable anchorage, he had to join the others. Here was I now alone with the two remaining sacks. The job had already taken an hour or so and I was stiff with cold. To save time, I shouldered both sacks, tied myself to a double rope and started up. I found the overhang most difficult. The double burden on my back dragged me down and as there were no holds, I seized the rope, braced my feet against the rock and went up hand over hand. It was the quickest way.

From the top of the overhang I saw my friends far above me. Between us lay some 40 m. of rock inclined at an angle of nearly 80°. In spite of my sacks I found holds good enough to climb up without using the rope otherwise than as a safeguard. This step was most trying; rain, mixed with sleet and snow, was falling steadily; my fingers were quite numb and it took me all my strength of will to keep them from relaxing. The most unpleasant thing of all was that at odd moments a stream of icy water would run up my sleeve and then down my body. Wet as a drowned rat I reached Jože, who had sought shelter in a biggish recess with a sandy bottom. Gasping, I slipped off my sacks. Now that the rucksacks were all together we realized that it was Pavla's that was missing. As it contained not only her boots, but her money, clothes and latchkey, its loss was tiresome.

We looked wonderful, huddled together like wet puppies, our faces green and haggard with the cold. It was a picture of an inverted Inferno. The heavens were weeping and our teeth were chattering; a keen wind got up, piercing us to the bone.

Therefore, onwards we had to go. To the right of the recess was a perpendicular step some 4 m. high. Pavla

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tackled it; for holds there were holes big enough to insert your hand; they gave an excellent grip and she went up as if by a ladder. Eagerly we waited to hear what sort of rock lay ahead. Beyond the step her first words were: 'Another overhang!' Danilo climbed up to her, Jože and I holding the ropes. Pavla climbed up to the overhang, but in spite of every effort failed to find a way past it. Danilo, who followed her, capitulated likewise. I wanted to hurry on next, because I was anxious to get rid of my sacks, but Jože, who was nearer, forestalled me. Seeing at once that the spot where our friends had tried was impassable, he made his attempt a little further to the right. He succeeded, and here, upon my soul, I should really like to praise our Jože, did I not know that he can stand anything except praise.

With a weary heart I once more took up my penance in the shape of the two sacks. The third I made fast to a rope. I climbed up close after it, so as to free it at once if it should catch.

Above the step the rock was rather like that below the recess. It ended in the overhang that had at first given us so much difficulty. But, as Jože had noticed at once, it had its weak point (or good point, for us) on the right side—holds, to wit. When we had surmounted it, we heaved sighs of relief. We noted with satisfaction that the face was less inclined. We were still some 60 m. from the summit, but they were child's play compared to what we had passed.

We stood on a wide bank of shale, girdled crescent-wise by cliffs. To the left were negotiable chimneys, so, without looking further, my friends started up them. But the chimneys were greasy and slippery with the wet, so that great care was necessary in climbing. To me the right side looked more promising, so I went to see what might lie beyond the edge of the face. And behold, I found a steep crack, with good holds in sight. I called my friends; we doubled our pace as we climbed; our goal was at hand. All weariness and depression left us when we saw that we should soon be on the top. Before long we stood on the ridge ending in the actual summit.

Our sodden *Kletterschuhen* were no longer necessary. We were glad to take them off and wring out our stockings. No sooner had we donned our hob-nailed boots than we fairly scurried over the ridge. We reached the summit at 5 P.M.; we had spent 9 hours on the face.

As it was still raining, with a bitter wind, we hurried down

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the usual route and presently caught up with Pavla, who had gone on ahead since she had no need to change. Her boots were reposing peacefully under the cliff.

Two hours later we were at the Aljaž hostel in the Vrata Valley. We made haste, not for fear of being overtaken by darkness, but in order to get up a little warmth.

We gave Torkar, the hut-keeper, quite a scare. The water was pouring off us; he would have preferred to hang us up to drip! He produced all his own and his wife's wardrobe and we changed. Like carnival revellers we looked when we met again in the dining-room in appropriately high spirits. The chill damp of our victory over the Škrlatica we dispelled with mulled wine.

Some Physical Characteristics of Snow Avalanches.

By F. S. SMYTHE.

THE question as to whether or not a slope will avalanche is the most vital problem the ski-runner has to face. A considerable amount has been written on the subject, but avalanches are still regarded by the majority of winter visitors to the Alps as haphazard affairs only avoidable by good luck or attention to the warnings on the hotel notice-board. During several seasons' ski-ing experience I have only met one or two ski-runners who possessed any but elementary ideas on the subject of avalanches; yet avalanches are an exact science and one which to my mind is one of the most fascinating branches of mountain-craft.

Referring to winter-climbs only, avalanches do not affect the mountaineer on foot to nearly the same extent as the ski-runner. At the moment I can only recall the classic disaster resulting in the death of Bennen, February 28, 1864, while accidents to ski-ing parties flock into the mind. The reasons for this are:

1. That comparatively few climb on foot in winter.
2. That ski in themselves are definitely a more dangerous medium of progression than boots or raquettes.
3. That the man on foot necessarily follows a safer route than the man on ski. He instinctively follows the crests of ridges where the snow is usually hard and safe, while the man on ski naturally prefers smoother and more unbroken snow slopes where the risk of avalanches is considerably greater.

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I can give some concrete examples to illustrate this thesis.

Once during a bout of spring *Föhn*, when staying at the Darmstädter hut near St. Anton, I spent an afternoon experimenting on the relative safety of boots and ski. Near the hut was a short and steep slope of snow well sodden by the *Föhn*. First of all I traversed it on foot. There was no tendency of the slope to avalanche. Then, returning, I repeated the traverse on ski. The difference was striking. I had barely got half way across when the slope split away at the track of the ski and started to slide. The upper portion of the slope being no longer supported followed the lower immediately. Thus, I was neatly imprisoned in the centre of the avalanche. As previously remarked, the slope was not long enough to present any possible danger, but it was an instructive little experiment for all that.

As regards '8,' the accident near Zürs, January 1, 1927, is a very fair example. I know the place well, and have traversed the Valluga three times. A man climbing the peak on foot would instinctively avoid the steep slope of the Trittkopf, where the accident took place, as a route to the Paziel Glacier. To him, the direct ascent of the terminal moraine would be much less wearying, quite apart from the question of relative safety. If he had mountaineering experience he would doubly avoid the Trittkopf slope, for not only is it long and steep, but its crest is heavily corniched in winter and presents the most obvious avalanche trap. Yet what ski-runner would undertake the trudge on foot up the rocky slope of the terminal moraine carrying his ski in preference to the less fatiguing but dangerous ski-ing route across the Trittkopf slope? This instance is repeated in numberless examples all over the Alps, and I will go so far as to say that, on the whole, the natural route for the ski-runner is very often an unsound one as compared with the natural route of the man on foot or raquettes. I am sure that the majority of avalanche accidents were not so much due to avalanchy conditions as to the following of the incorrect route in the *mountaineering* sense which the employment of ski necessitated. Given two men, one on ski and one on foot, both equally ignorant of snowcraft, the man on foot would instinctively follow the safer route, for the simple reason that a ridge is his natural route, whereas a face is the natural route of the ski-runner.

It is simply and solely the development of ski-ing that has made snowcraft of such vital importance; the man who climbs on foot does not need such exhaustive knowledge because he

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is much less likely to detach an avalanche and does not need to venture upon such dangerous routes as the ski-runner.

Guides of olden days, such as Christian Almer, probably did not know as much about snowcraft as the modern ski-runner *ought* to know, but they knew all the snowcraft necessary to enable them to climb safely on foot or raquettes.

Thus it comes about that owing to ski and the unsound routes which their use often entails, the science of avalanche detection has reached—on paper—a higher degree than it would otherwise have done. To say that ski-ing has done much to develop this is undoubtedly true, but ski-runners can hardly claim this with pride, for had it not been for the introduction of ski the number of avalanche accidents—and in justice to the ski-runner, the number of great peaks climbed in winter—would have remained infinitesimal.

Every ski-runner owes a debt of gratitude to the author of 'Alpine Ski-ing at all Heights and Seasons,' and to the Editor of 'Die Gefahren der Alpen,' in both of which works avalanche craft is dealt with very lucidly.

The efforts of the Ski Club of Great Britain to instil snowcraft into ski-runners are also admirable, but the vital point is that this most intricate branch of mountain craft can only be acquired by a long apprenticeship of the mountains in all their moods. However, the idea is excellent and the foundation of a knowledge of snowcraft can be acquired thus.

The science of avalanches is an exact science depending upon definite physical laws, and my only excuse for this paper is to place on record some observations extending over several seasons of winter mountaineering and ski-ing.

It may be of interest to go through the successive stages of avalanches. Snow when it first falls is crystalline. Each flake resembles a number of tiny ice feathers radiating from an apex. If the new snow-fall falls on loose powder snow it quickly becomes consolidated with it, but if it falls on to crusted snow a considerable period may elapse before the two become homogeneous. In both cases, before homogeneity takes place the slope may avalanche of its own volition, or as the result of some outward disturbance such as the cutting effect of a ski track. This homogeneity of the new snow with the old is produced by consolidation. In the case of crusted surface: the numberless crystals of new snow that fall on to it form millions of minute points of contact, but these points of contact are not sufficient to bind the two layers securely together. But soon the new snow begins to settle, and its

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weight tends to break the underlying crystals and press the new layer more firmly against the old layer. Sun and frost are the quickest agents of consolidation, but it is a mistake to suppose that fresh winter snow requires these. Consolidation proceeds independently from the constant shrinking of the snow-layer. As everyone knows by pressing two pieces of ice together one can cause them to unite. The same applies here. Pressure is sufficient to unite the numberless little ice crystals on the underside of the upper layer of newly-fallen snow with the old snow beneath.

Wind is another factor that aids consolidation, and one which I have never seen mentioned. It has been stated that no ice can form at over 10,000 ft. in mid winter. This is not quite accurate. Sun may have no influence at all, but wind is an enormous factor. Board hard wind-crust is merely wind-consolidated snow in the first stages of ice. During some recent ascents in the Bernese Oberland some blizzards of great severity were experienced, and afterwards the rock ridges at heights of over 12,000 ft. were plastered in ice consisting of long drawn out ice crystals as much as a foot long and 6 in. in diameter. Nothing but wind pressure could have produced this ice, and the influence of wind pressure on a slope of newly-fallen snow must always exercise a consolidating effect.

Whether or not the newly-fallen snow is wet or dry makes a considerable difference. Wet snow obviously falls at a temperature round about freezing point, and its crystals are less feathery than dry snow. That is to say they are larger and fewer in number. They are like a tree with trimmed branches, whilst dry snow-crystals are of far more complicated construction. The result of this is that there are even less contact points between the two layers with less adhesion and a consequent tendency to avalanche. Owing to the high temperature the two layers cannot unite while the wetness of the new snow acts as a lubricant between them. Directly the temperature falls, however, consolidation takes place with celerity, and not only does the new layer freeze firmly to the old but the slope is now one homogeneous mass safe enough to bear any number of ski-runners.

When snow falls with a wind two different factors enter into the situation. In the first case the snowflakes are blown directly against a slope where they are consolidated by the pressure of the wind into a hard compact cake adhering by pressure to the underlying surface. This is wind-crust and

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may vary from the slightest, barely noticeable, crust to a crust in the first stages of ice and hard enough to walk on. Owing to its consolidation by wind pressure to the old layer beneath it *cannot* avalanche.

The other variety of wind-blown snow is more subtle, and forms an avalanche trap, the most difficult and unforeseen of all avalanche forms that the ski-runner has to contend with. It is known as *Schneebrett*[1] or wind-slab, and there still prevails a considerable diversity of opinion as to how it forms. I give my own observations and experiences for what they are worth.

When snow falls with a wind the snowflakes are blown along the surface of the snow or carried through the air until they meet rising ground. The snowflakes are blown up the slope and their delicate crystals are shattered by contact and friction, so that one snowflake may be resolved into a number of minute icy pellets. These are hurried up the slope, becoming even more rounded and icy in the process, and are finally driven over a ridge to fall or be blown downwards on the lee side. In the case of ordinary snowflakes unaffected by this wearing process the flakes are like feathers and have little weight in proportion to the area they occupy. Before consolidation they resemble a mass of feathers or spillikins piled upon one another, and their weight per volume is small. In the case of wind-blown snow, however, its tiny ice pellets occupy but a small volume relative to their weight, and when compacted are of a density many times greater than ordinary snow flakes. As mentioned, these little pellets pour over a ridge and settle in a compact cake on the lee side. The under surface of this cake instead of consisting of spiky feathery crystals, tending to bind it to the old snow-layer, are rounded and smooth. They resemble numberless minute ball-bearings tightly packed together. Now suppose that the consolidating process is still acting on the old snow-layer. It is still shrinking slightly and sinking in the process. The newly formed wind-slab on the other hand is so tightly compacted that it is unable to sink

[1] The term I have heard used for many years. Mr. Smythe, however, informs me that *Windbrett* is now much employed and that several authorities differentiate between *Schneebrett* and *Windbrett*, the former being defined as a 'snow-slab' but not necessarily as a 'wind-slab.' To my mind, no such thing exists as a snow-slab *not* formed by wind. Consequently the two terms are really—or should be—synonymous.—E. L. S.

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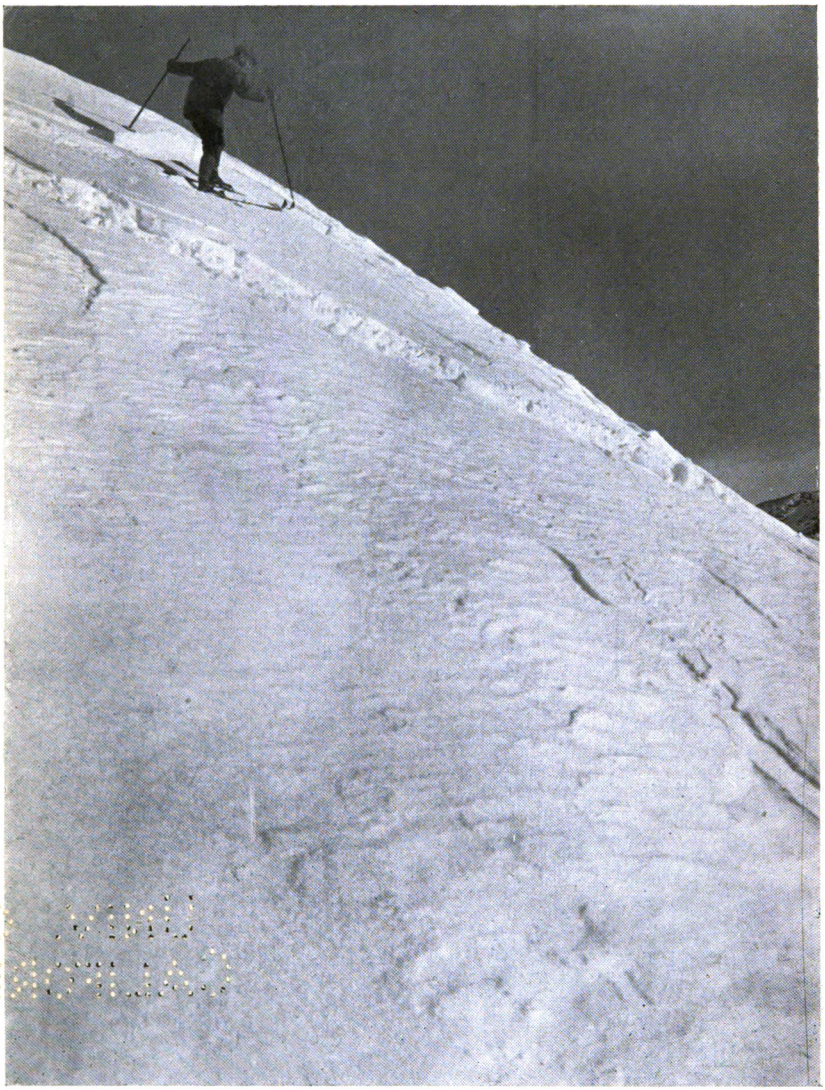

Photo. F. S. Smythe.

THE START OF A "WIND-SLAB" AVALANCHE.

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with it. An analogy is the apple dumpling. The apple under the influence of cooking shrinks, leaving a gap between it and the pastry, which, being of a different consistency and tightly compacted, cannot shrink with it. That is precisely the case with the wind-slab. The hard cake of the tightly compacted slab is left with an appreciable gap between it and the old snow-layer with only a few points of support and but little friction to prevent it avalanching. Nevertheless, unlike pastry, the wind-slab is capable of consolidating with the under snow-layer. The process is a slow one and depends entirely on the stage of consolidation of the under layer. If this be ordinary old snow or consolidated wind-slab, the process is a comparatively rapid one. No gap can appear between the two layers, and in the course of a day or so the consolidation of the wind-slab will bind it to the under snow-layer and it will be safe. But where the under snow-layer is itself comparatively new and is still consolidating it is obvious that the process is a much longer one, and it may be days or even weeks before the wind-slab becomes safe, unless it is assisted materially in its consolidation by the sun.

Until consolidation has taken place the danger of an avalanche remains, and the wind-slab, provided it has not fallen of its own volition, lies in wait for the ski-runner or mountaineer. It is a form of avalanche of incalculable effect. Nothing at first sight can appear safer than a slope of snow which may be hard enough to walk upon. But suddenly, with a booming roar, the whole slope splits away, and, aided by the slight caving in effect, breaks up into a mass of hard blocks, sometimes feet thick, which imprison the ski-runner in an iron grasp. It needs but a slope of only 200–300 ft. to prove fatal, and anyone unfortunate enough to be caught in a wind-slab is as likely to be crushed by the weight of the hard snow blocks as suffocated beneath them.

It has been my good fortune never to have been involved accidentally in a wind-slab or any other form of avalanche, but last winter I got a friend to photograph me while I traversed on ski a short slope of obvious wind-slab. This again was an instructive experiment. As in the wet snow avalanche previously mentioned, the slope split, first at the ski track, and then above. It caved in and broke up at the same moment into the characteristic blocks of hard snow. Even on that small slope, which was not more than 50 ft. long, I experienced a feeling of complete helplessness and was irresistibly borne downwards, while the weight of the snow blocks

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on the ski twisted my legs and ankles uncomfortably. It is not the object of this paper to describe the appearance of avalanchy snow; that is to be found in the textbooks, but I do not think that any textbook can adequately describe a wind-slab's appearance. It is discoverable only to the experienced eye by the texture of its surface, plus a knowledge of the direction of the wind which formed it, and the lie of the ground. It is also interesting to note that new snow is not necessary to form a wind-slab. Mere wind and blown loose snow is sufficient.

With the exception of the wet snow avalanche, which is too simple and obvious to mention here both in cause and effect, there is only one other main type of avalanche.

The *Staublawine* or powder-snow avalanche is of little danger to the ski-runner, for no one in their senses would venture into a rocky steeply-sided narrow valley after a heavy snowfall. Limestone valleys are especially liable to this form of avalanche. Large quantities of loose snow collect on the large broad sloping terraces, and in the incipient gullies peculiar to limestone. A movement is started and the incoherent snow begins to pour downwards like sugar. New snow has always a considerable amount of air imprisoned in it, and this air is released and flung before the downward pouring snow-stream. At least that is the accepted theory, but it is one which I have always regarded with suspicion. At all events the snow quickly gathers volume and rushes downwards pouring like a cascade over the cliffs, denuding every terrace of its snow and, finally, meeting the less steep lower slopes, shoots outwards across the valley, flinging a furious wind before it, sometimes strong enough to uproot dozens of trees. It is this wind which gives rise to the supposition that the snow contains imprisoned air. It does, but this wind is more probably the displacement of air by the avalanche. A large *Staublawine*, by virtue of its great volume, necessarily displaces more air than a large wet snow avalanche which is of less volume but greater density.

Twenty-three degrees is the angle which has been agreed upon as the *least* angle at which an avalanche can take place, but in the case of a *Staublawine* a much greater angle is required to set snow in motion; probably round about 50°. Thus it is that only slopes of a very high average angle are liable to this avalanche.

There is always something new to be learnt anent snow-craft. This winter our party were turned back from an expedition by a long and steep slope composed of 3 ft. of

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perfectly safe and consolidated powdery snow overlying an unsafe, unconsolidated wind-slab. It would be difficult to imagine anything more treacherous and harder to foresee.

As I have said, snowcraft is a fascinating and absorbing study. If only ski-runners would realize this the daily papers would be hard put to it for their usual and tragical winter 'material.'

[Mr. Smythe has requested me to add a few comments to his interesting and instructive paper.

A few points occur to me, and of these by far the most important one seems to be that winter snow conditions have altered, most unquestionably, in the last 30 years. In the periods 1891–2 and 1895–9, during which most of my winter ascents were accomplished, the wind-slab condition appeared to be virtually non-existent. This may have been due to the heavy snowfall of those winters and also to the fact that during all those winters (except 1897–8, when it was exceptionally low), very heavy falls of wettish snow took place in November. The subsequent snow, notably the enormous fall in December–January, 1898–9, fell on already packed and consolidated masses. The first and only wind-slab 'avalanche' that I saw during that period occurred at less than 8000 ft. (early January 1899). The party of three was proceeding along a nearly level *ridge*, less than 10 ft. below the crest, heavily corniched on the far side. The height of the ridge above the 'plain' was not more than 200 ft. I was leading and the crest appeared to turn clean over and fell with a startling report and in great masses, just in front of me, *i.e.* on my side of the crest and *away* from the corniche. The slope on our side of the crest did not exceed 25° while the reverse, or 'corniche' slope, was at about 40°–50°. A snow-storm was raging at the time and the temperature was high. No damage and only a certain amount of alarm was caused.

In those days we waited for at least a fortnight's fine weather before attempting any peaks. This may have been so as to be able to walk comfortably (on raquettes) *on* the snow, but I hope that it was owing to our desire to eliminate any possible avalanche danger. At any rate, in the course of some 30 high ascents of over 12,000 ft., I never *saw* an avalanche of any form or kind.

The South African War then intervened, and I was away from the Alps for 3 years. I returned there in the winter of 1902–3. I saw the first ski tracks at a height of 10,000 ft. and on a glacier! I also saw many avalanches of all kinds, fallen and falling. The dull thud of wind-slabs could be heard on the gentlest, almost level slopes. The tiny crack in the snow surface could be noticed opening out in front of one; sometimes, where the surface was level or nearly so, 20–30 yards ahead. These conditions have prevailed during every winter that I have visited the Alps, 13 in all, some almost snowless, since 1902. The snowfall of 1922–3 was, however,

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exceptionally great.[2] The winter of 1924–5, when the December and January snowfall was negligible, was easily the worst. In that season couloirs were especially dangerous; in fact it was only feasible to mount by their rocky banks. The hard snow composing their surface was apt to come away in enormous slabs even at the very base, and this for a solitary individual on boots or raquettes. No wonder that ski-runners have perished by the score during these latter winters.

This winter, although no serious climb was attempted, with an abundant early snow fall, little wind, and a very low temperature, a welcome reversion to old-fashioned winter conditions seems to have prevailed. I noticed no wind-slabs at all.

I fear that I cannot agree altogether with Mr. Smythe when he states that wind-slab ' is discoverable only to the experienced eye by the texture of its surface.' In my experience the eye *cannot* detect any change; it is the *foot* alone that is any guide, *i.e.* that curious feeling of very thin powdery snow resting on hard crust that *may* indicate, to the foot and thence to the mind, the possible lurking danger.[3] But, I do not think this feeling can be communicated through a *ski*. With Mr. Smythe's further statement that wind-slab is discoverable by ' knowledge of the direction of the wind forming it and the lie of the ground,' I concur entirely. Unfortunately, this knowledge is of necessity lacking to the majority of other than *local* mountaineers or ski-runners.—E. L. S.]

I had intended to close my paper as above, but the Editor's comments encourage me to make a few more remarks.

Colonel Strutt's assumption that wind-slabs do not occur during snowy seasons is of great interest. During the season of 1922–3, I ski-ed from November to May in the Arlberg and elsewhere. This was a season of heavy snowfalls, commencing

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[2] The highest ' peak ' that I visited that winter was, however, only the Raxalpe. There was more snow lying in the streets of Munich and Vienna than at, say, Pontresina or Davos, four winters out of five.

[3] This highly precarious state of snow occurred suddenly while mounting the steep snow couloir in the S. face of Les Écrins, July 18, 1927—a very bad summer after a comparatively dry winter. Pierre Blanc, my leader, noticed the danger at once and made a desperately quick spring for the rocky bank. There was no noise and no wind-slab avalanche occurred, but we continued by the (highly glazed) rocks, or, at any rate, holding on to them, right up to the watershed.

Another example of (winter) wind-slab, is the Rottalhorn accident early last summer. The weather had been very bad till near the end of June.

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very early, and of little wind ; I did not see one wind-slab, nor do I remember a single avalanche accident in the St. Anton district during that period. Since that season accidents have been very numerous there. It would be instructive to examine statistics, should any be available, of accidents in relation to snowfall. They would reveal, probably, that seasons of little snow are more productive of accidents than seasons of heavy falls. This may sound paradoxical, but is simply due to the fact that during seasons of little snow there is always wind. No doubt this could be verified by meteorological data. At all events, the question opens up a wide field of speculation on the causes of avalanches ; these could best be investigated by Swiss authorities who have more data at hand.

The fact that Colonel Strutt waited until a considerable period had elapsed, after a snowfall, before making his ascents, may of course have accounted to some degree for his not seeing avalanches, but I feel certain that the general principle of *safe* snowy winters holds true. Last winter, 1927–8, when at Pontresina, there was little snow but much wind ; wind-slab formed in many places. And that winter will be remembered as possibly the worst on record for its avalanche casualties.

With regard to the detection of wind-slabs, no doubt surmise is largely responsible. One instinctively suspects the lee slope of a ridge after a blizzard or wind, particularly when consisting of wind-rippled snow. My only definite data on this point are that a slope alternately wind-rippled then of that peculiar smooth shield-like texture [4] for some distance, followed shortly by more wind-ripples is almost invariably wind-slab. It may prove consolidated and safe, but it is wind-slab for all that. Another method of detecting wind-slab is to note the consistency of the snow. If it is all of the same softness or hardness it should be treated as suspicious. In other words, if the ski-runner finds his ski sinking always to the *same* depth, he should suspect wind-slab, but if he finds that the slope is not uniform in its bearing-power, that his ski sink in for a few yards and then run on the surface owing to the slope being composed of alternate breakable and hard crust, then he should realize that the slope is composed of wind-*blown* consolidated snow, incapable of avalanching.

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[4] In my experience, this shield-like texture is infinitely more dangerous than wind-ripples, probably because these latter consist of *more* compacted snow.—E. L. S.

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For this reason I think that it is often possible to detect a wind-slab when on ski. Apart from appearances, there is a curious feeling (on ski) in a wind-slab—a sort of smooth velvety [5] texture impossible to describe and which can be learnt only by experience.

[See also 'A.J.' **23**, 379–86, in which all kinds of avalanches are discussed.]

DR. PACCARD'S 'LOST NARRATIVE.'

An Attempted Reconstruction.

By E. H. STEVENS.

INTRODUCTION.

THE first ascent of Mont Blanc, by Dr. Michel Gabriel Paccard and Jacques Balmat, on August 8, 1786, was from many points of view the most important event in the history of mountaineering. It is a very unfortunate fact that no complete account of their exploit by either of the climbers ever appeared. Dr. **Paccard** undoubtedly intended to publish such an account, and if he had done so, it would have been read, as de Saussure said, from one end of Europe to the other (see note 146). It is actually mentioned by certain bibliographers of the early nineteenth century (see note 125), but it is now generally agreed that it was never published. **Balmat,** however, told his version of the story to Bourrit a few days after the ascent, and **Bourrit** embodied or embroidered it in a pamphlet[1] (Sept. 20, 1786), which went far and wide in France, Switzerland, Germany, and England.[2] In this pamphlet nearly all the credit, both for the discovery of the route which proved the key to the ascent, and for the actual execution of the climb, was attributed to Balmat, while Paccard's part in the enterprise was represented as quite subordinate. To later issues of his pamphlet Bourrit was induced by de Saussure to add a postscript making a sort of apology to Paccard which, however, left his insinuations practically unchanged (see note 146). Paccard, as we shall see, took vigorous steps, in communications to the *Journal*

[5] This is the exact descriptive adjective.—E. L. S.

[1] Printed in full by Dübi, pp. 58–62. An indifferent English translation (which is probably the earliest account of the ascent in English) appeared in *The Scots Magazine* for November 1786, and is reprinted by Montagnier in *A.J.* **25**, 609–12. This translation omits Bourrit's more subjective passages, and does not contain the postscript added, on the prompting of de Saussure, to later editions of the pamphlet (see note 146).

[2] See Montagnier, *A.J.* **25**, 608. Dübi, pp. 63–74.

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Mont Blanc and the Glacier du Tacul from the Couvercle, from an early print in the collection of R. W. Lloyd, illustrating the paper by E. H. Stevens on Dr. Paccard's "Lost Narrative."

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de Lausanne (1787), to controvert Bourrit's misrepresentations, but he did not succeed in destroying their effect, echoes of which are found in most of the early accounts. Bourrit was, indeed, 'the villain of the piece' (see notes 56 and 146, and 'Postscript'). Many years later (1823 and 1825) Paccard reiterated his claims to the discovery of the route in two singularly interesting letters to the *Journal de Savoie*.[3] Use is made below of both these series of letters.

Paccard died on May 21, 1827, and some five years afterwards Balmat, then in his anecdotage—he was 70—told his story again to **Alexandre Dumas,** forty-six years after the ascent (1832). The tale had grown in the meanwhile, and Balmat with it.[4] He had now

[3] Montagnier, *A.J.* **25,** 621, 623. Dübi, p. 167.

[4] For brevity's sake I omit from the text mention of a stage in this 'growth of the legend' which is marked by a MS. journal purporting to be by Balmat, which was published in the *Annuaire* of the 'C.A.F.,' 1903. The text is reproduced in Dübi, p. 179, and a translation and critical account by C. E. Mathews appeared in *A.J.* **21,** 408. The MS. describes (mostly in the first person) Balmat's explorations in June 1786, and gives a list (with many errors) of the ascents of Mont Blanc from June 1786 to 1830 (Wilbraham). It is badly written and full of gross mistakes in spelling and grammar. It looks uncommonly like a brief and hasty imitation of Paccard's diary. There is no reason to doubt that it was either dictated or, quite likely, written by Balmat himself, in or soon after 1830, perhaps in preparation for the interview with Dumas (1832), or for some similar purpose. I am very much inclined to think that Balmat had got to know of the existence and contents of the Doctor's journals, and prepared this MS. as his counterblast. (Much of what Paccard related must in any case have often been talked about in the village, and we may remember that he had married a Balmat, and had died in 1827.) In particular it seems likely that Balmat's tale of his four days' climbing and sleeping out—of which we hear not a word, even in Bourrit, till this MS. and the fuller story told to Dumas—was invented, when Paccard was dead, to 'trump' the latter's account of his two days' and nights' excursion round the Aiguille du Goûter (*cf.* Dübi, p. 183). The following points in the MS. may be noticed: (*a*) It opens with an assertion [not made anywhere else] that Balmat was *on the Dôme du Goûter* alone *on June* 28 [the date is almost certainly wrong], and states that on the descent he met the three guides near the foot of the mountain and that *they invited him to join them.* [This last statement flatly contradicts Balmat's own tale to Dumas and all other evidence.] (*b*) It claims that on the next day, while they were waiting for the other two guides from the Aiguille du Goûter, Balmat alone climbed the 'Arête Blanche' [*sc.* the Bosses ridge], and got quite near the summit, being only stopped by the mist. (*c*) It asserts that when deserted by his companions Balmat ascended again 'on the left side,' got quite near the summit [a second time, on the same day, in bad weather, on another and distant ridge!], and saw the valley of Aosta. The top being still covered by mist, he had to descend, was stopped by a big crevasse which he had crossed in the morning by a bad bridge, and spent his fourth night out on an ice ridge [!] on the Grand Plateau at a height of 1455 toises above Chamonix and 1786 toises above the sea. [This is the exact height of de Saussure's bivouac in 1787, which Balmat therefore obviously 'conveyed,' with the ridiculous blunder of 1786 toises for de Saussure's correct figure of 1995 toises above the sea! This alone is enough to explode the whole concoction.] (*d*) It declares that a few days [really five weeks] later Dr. Paccard invited him to attempt the ascent; it states the times of their climb correctly, and asserts that Balmat ascended to the top twice on that day [this is the only hint in the MS. of what Balmat elaborated afterwards about Paccard's alleged incompetence], and next year made his third ascent with two companions on July 9 and his fourth with de Saussure on August 3. As Mathews says, 'Balmat

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become, at least in his own mind, a superman—able in his heroic youth to spend four consecutive days and nights climbing and sleeping out amongst the glaciers, and even to carry his helpless companion over difficult glacier passages—while, as a foil to the hero, Paccard was reduced to a figure of fun, similar to the incompetent amateurs who by this time had become familiar objects of contempt to the guides who dragged them to, or towards, the top. This travesty of the truth, skilfully worked up by Dumas's accomplished pen into an inimitably sparkling story, became the accepted version of the climb for more than two-thirds of a century.[5] In Mr. Arnold Lunn's picturesque phrase 'the combination of Dumas and Balmat was too much for what Clough calls "the mere it was,"' and the resulting narrative, as Mr. Montagnier says, 'is now known to be little more than a series of grotesque exaggerations and imaginary incidents.' Balmat died, in mysterious circumstances, some two years after the famous interview.[6]

In 1854 **M. Carrier** (a Chamonix guide, son of one of the pioneers of 1783, *cf.* § 2) brought out a revised edition of the tale—in which Paccard was much more respectfully treated, both as a man and a mountaineer—with the important addition of an account, said to have been taken from Balmat's own lips, of his asserted discovery of the 'Ancien Passage,'[7] which, though vital to the story, had been barely alluded to by Dumas. Carrier's pamphlet has recently been reprinted, and is being freely sold in Chamonix, where it is still supposed to give the authentic history of the climb. In 1877 **Ch. Durier** in his classic work 'Le Mont Blanc'—deservedly crowned by the French Academy, if only for the charm of its finished and very individual style—whole-heartedly adopted the Dumas-Carrier version, and made of Balmat an ideal figure, combining the virtues of the best of guides and of the finest type of Savoyard peasant. The account given in the 1898 edition of Ball's 'Alpine Guide' (which is only in part revised, no doubt by Coolidge, from

in this MS. was clearly beginning to assume the rôle he afterwards maintained, that he and he only made the first ascent.' We may go further and maintain that comparison of the MS. with the narratives of Bourrit, de Saussure, Dumas, and Carrier shows that the tale was continually worked up, and is utterly untrustworthy in any or all of its perpetually varied forms.

[5] The reader not already familiar with it should peruse the chapter of Dumas's delightful *Impressions de Voyage* (*Suisse*) (3rd series, 1833; 2nd edition, with illustrations, 1853–54) which relates Balmat's story. It is translated in full by Mathews (*Annals of Mont Blanc*, chapter iv.), but his rendering is defaced by many elementary blunders, and often misrepresents the original—worst of all in the passage in which Balmat refers to the 'grande crevasse.' More accurate and spirited versions of selected passages will be found in Whymper (pp. 18–23) and Gribble (pp. 164–173). A little volume edited (with short notes) for school use by C. H. Parry (Longmans, 1890) contains a capital selection of eighteen of the most interesting chapters from the *Impressions*, including nearly the whole of the Balmat chapter.

[6] Dr. M. Barry, on his descent from Mont Blanc, September 18, 1834, met Balmat, who was then 72½ (*cf.* note 115), and heard of his death shortly afterwards.

[7] See notes 115, 156, and Dübi, pp. 208–212.

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that which appeared in 1877) is substantially based on Durier. It repeats most of Dumas's errors, except the 'dragging to the top.'

The first effective steps in the return to the truth were taken by **Edward Whymper.** While prosecuting with characteristic thoroughness the preparations for his admirable 'Guide to Chamonix' (1896), he made an exhaustive search in the Chamonix valley and in all likely libraries for a copy of Dr. Paccard's narrative.[8] The hunt was fruitless, but he was more fortunate in another direction. A laborious search through the contemporary newspapers of Geneva and Lausanne brought to light, in the pages of the *Journal de Lausanne* of February to May 1787, an acrimonious correspondence between Paccard and Bourrit. It was opened by an anonymous communication, emanating from Paccard; but, it would seem, badly sub-edited,[9] in which a vigorous protest was made against Bourrit's misrepresentations, and it was declared that the Doctor had in his possession certificates which proved their falsity. Bourrit retorted in an angry letter in which he challenged the production of these certificates. Thereupon Paccard printed two certificates, signed by Balmat and duly witnessed. In the second of these (which is dated March 25, 1787, and the original of which was sent by Paccard to von Gersdorf, *among whose papers it still exists*[10]) Balmat testified to his receipt of moneys from Paccard—a fact which Bourrit had denied. In the earlier certificate, dated October 18, 1786, Balmat gave an account of the ascent, with numerous details, which involved a complete refutation of Bourrit's misrepresentations, and *a fortiori* of the later and still grosser falsifications in Dumas's story. Whymper printed a translation of these certificates[11] in his 'Guide to Chamonix' (1896), pp. 26, 27, but even he could not quite shake off the influence of tradition, and he closed his discussion of the matter with this ambiguously ironical passage: 'Posterity has not estimated Paccard as highly as he might have wished. A monument has been raised in Chamonix to Balmat, and another to de Saussure. Whilst their names are remembered with gratitude, that of the village doctor is well nigh forgotten; and if one were to make inquiries about him, it is more than likely that the answer would be "Who is this Doctor Paccard?"' A chief object of the present paper is to help in rescuing from oblivion the Doctor's name and fame as one of the most enterprising and accomplished pioneers of mountaineering.

The search for Dr. Paccard's 'lost narrative' was taken up with zeal but no success by **C. E. Mathews.**[12] He was, however, lucky enough to discover and obtain possession of a most valuable MS. diary in which Paccard had recorded at length (*a*) the chief attempts to climb the great mountain, (*b*) his own explorations, and (*c*) the ascents made during his lifetime. (To his own ascent the diary

[8] See Montagnier, *A.J.* **26**, 39.
[9] Dübi, p. 76.
[10] See Dübi, pp. 81, 82, with facsimile.
[11] Originals in Dübi, pp. 80, 81.
[12] See Montagnier, *A.J.* **26**, 39.

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gives only three lines, stating the date and times, but throwing no light on other points; no doubt he intended to draw up his full narrative separately.) Mathews quoted various passages from the diary in his 'Annals of Mont Blanc' (1898), in which he also mentioned Balmat's certificate, without, however, making any further use of it. But in his chapter entitled 'Paccard *versus* Balmat' he showed, by an acute analysis of the early accounts, that Dumas's story of the helpless amateur, dragged to the top by his heroic guide, was incredible. He still, however, failed to see that *if this part of the story was false, it was likely that the rest was equally unreliable*, and Balmat's claim to have discovered the route might be worth no more than his overweening boasts of his prowess on the mountain.

D. W. Freshfield, in 1899, followed up Mathews' discussion by an article ("A.J.' **19,** 342) containing a remarkably prescient treatment of the subject. With his usual masterly handling of evidence and keen geographical and psychological insight, he arrived at conclusions as to the respective shares of Paccard, Balmat, and Bourrit in the great climb and the subsequent controversies, which are substantially confirmed by the later discoveries now to be mentioned.

Some years before his death in 1911, Whymper had handed on the torch of research to **H. F. Montagnier,** whose untiring labours and sleuth-like ingenuity were rewarded by the discovery,[13] *inter alia*, of a unique copy of the prospectus which Dr. Paccard had issued, inviting subscriptions to his forthcoming narrative. This copy, slightly mutilated at the edges by mice, was found among the papers of H. A. Gosse, a Geneva contemporary of the climbers, who at one time had contemplated writing a life of Balmat. As the final result of his inquiries, Montagnier was reluctantly driven to the conclusion, already suggested by F. Gribble,[14] that the projected narrative was probably never published.[15]

Meanwhile the distinguished Swiss climber and authority on mountaineering history, Dr. H. Dübi of Berne, was collecting materials for a study of the Paccard-Balmat controversy. It is surely one of the romances of bibliography that Montagnier and Dübi, personally unknown to one another, but hearing something of what was on foot, should have written by the same post, from Geneva and Berne respectively, each asking for information from the other. This led to a friendly co-operation between the two investigators, encouraged by their mutual friend Whymper, and to the discovery of much fresh material bearing on the question. Perhaps the most valuable—as it was the most unexpected—find was the MS. diary of Baron **A. T. von Gersdorf,** a German gentleman

[13] See Montagnier's most interesting account of his successful hunt in *A.J.* **26,** 36–52, with facsimile of the prospectus (given also in Dübi, pp. 242–244).

[14] Gribble, pp. 174–176.

[15] As late as May 31, 1787, in a letter to von Gersdorf (Dübi, p. 118), Paccard explained that he had been prevented from getting out his narrative, largely through the annoying controversy with Bourrit.

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interested in science and in mountains, who, with his friend C. A. von Meyer, was in Chamonix at the time of the first ascent, and watched its later stages through the telescope (see 'Postscript' and note 17). His name stood first on the preliminary list of subscribers given in Paccard's prospectus, and a certificate testifying to the fact of the ascent, which he had given to Paccard's father, had been found in Chamonix and published in 1905. His seat was near Görlitz, the Scientific Institute of which, according to the 'Encyclopaedia Britannica,' possessed a fine library.[16] On application to the librarian, it turned out that von Gersdorf had been one of the founders of the Institute, to which he had bequeathed most of his papers. Amongst these was actually found the diary of his Swiss tour, containing full notes, with illustrative sketches, of the observations of the ascent which he had made on August 8 and 9, 1786.[17] These notes, made at the very time of the events by a singularly competent and impartial observer, and brought to light in so romantic a fashion more than a century afterwards, finally disposed of most of Bourrit's insinuations, and completely shattered the Dumas legend as to the incompetence of Paccard.

In 1913 **Dr. Dübi** published his monograph 'Paccard wider Balmat, oder die Entwicklung einer Legende,'[18] in which he brought together the whole of the relevant documents, both printed and MS., including a large amount of the new material referred to above, together with a masterly criticism of all the evidence. A cautious reader might perhaps feel that here and there Dübi is the advocate rather than the judge, but his main conclusions[19]—that Paccard alone devised the route and that he took at least an equal share in its execution—appear to me to be irrefragable. Dr. Dübi's book is indispensable to all students of the subject, but is now, most unfortunately, out of print, a fact which may excuse the extensive use I have made of it throughout this article. Amongst the many valuable documents printed by Dübi for the first time, perhaps the

[16] Montagnier, *A.J.* **26**, 45–46.

[17] These notes are reprinted in Dübi, pp. 47–55. They include (*a*) von Gersdorf's record of his observations on August 8 and 9; (*b*) an account of the ascent based on these observations and on what he heard from Paccard himself; (*c*) another account, written from Geneva three days later and signed by von Gersdorf and von Meyer. (This was sent to the *Leipziger Zeitungen*, in which it was published on August 23, being thus the first printed account of the ascent.) In all this there is necessarily much overlapping and a great deal of repetition. In order to avoid this, and thus gain in brevity and convenience, I have welded the three passages into one narrative, in which everything, save a few unimportant words, is closely translated from von Gersdorf's German text. The English reader thus has for the first time the opportunity of realizing the full import of this impartial and absolutely contemporary account. See pp. 147–150.

[18] The titles recall Mathews' chapter 'Paccard *versus* Balmat,' referred to above, and Freshfield's phrase, 'the origin and growth of a legend,' *A.J.* **19**, 348.

[19] A critical summary of these conclusions by D. W. Freshfield appeared in *A.J.* **27** (May 1913), 202.

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most valuable are the complete texts of Paccard's diary [20] and of the relevant passages from von Gersdorf's diary.

Last, but by no means least, must be mentioned the 'Life of de Saussure' by **D. W. Freshfield,** which appeared in 1920, and immediately took its place as being, alike in subject and treatment, one of the most instructive and fascinating of Alpine classics. In it are given to the world, for the first time, de Saussure's careful memoranda of Paccard's account of his ascent, which he heard from the Doctor's own lips fourteen days after its achievement, and which so impressed him that he—one of the most accurate of men—sat up late in order to put it down in writing the same evening.[21] De Saussure was naturally most interested in the details which bore on his own projected ascent, and these bulk rather largely in his notes, and disturb the orderly arrangement of the story. This, however, is easily restored, and thus we have, at long last, a good part at least of what Paccard would have related in his narrative had it been published. These notes are indeed 'the only authentic narrative of this memorable ascent; authentic because related by the more educated of the two climbers, scarcely a fortnight after the event, to a man who was thoroughly acquainted with the subject and could not be imposed upon; authentic, also, because it breathes the profoundest sincerity.' This is the deliberate judgment recently

[20] The diary is now in the library of the Alpine Club. Since drafting this paper I have examined and collated the MS., which is written in a 12mo volume, bound in vellum, containing some 180 pages of rather rough, soft paper.

The MS. occupies about 73 pages of the book. Of the remainder about 75 pages in all are blank, and scattered amongst them are disjointed jottings of domestic accounts and of the family history of Jean Michael Balmat, who had married the daughter of Dr. Paccard's son, Ambroise. It was from a son of this marriage (Ambroise-Adolphe Balmat) that C. E. Mathews obtained the diary. The accounts which it gives—often in considerable detail—of the later ascents of Mont Blanc go down to that of Clark and Sherwill in 1825. There are, however, also brief notes of the ascents of Fellows and Hawes in July 1827, and of Auldjo in August 1827, which are written in a different (and more cultured) handwriting. As Dr. Paccard died in May 1827, this change of handwriting might suggest that the earlier entries were written by Paccard himself. On the whole, however, I agree with Dübi that the MS. is probably a copy by some member of the Doctor's family (most likely his son Ambroise) of the original journals. The early entries are strangely out of order. On p. 1 (numbered 3) is the central portion of § 3 below; p. 2 is full of botanical notes; pp. 3–12 (all numbered 1) contain § 4; pp. 12–17 (all numbered 2) contain § 5; on the rest of p. 17 are §§ 1, 2; on p. 18 are the beginning and end of § 3, with a reference for the middle portion to p. 1. From p. 19 onwards the passages follow in chronological succession (§ 6 has the pages numbered 4; the account of the winter trip, omitted here, has the pages numbered 5; the rest are not numbered, doubtless because they follow in proper order). These facts, together with the general uniformity of the writing, certainly suggest a copy, perhaps begun hastily, but continued systematically, and intended to preserve in a permanent and handy form what were probably scattered papers. The somewhat careless punctuation and arrangement seem to show that the copy is not revised or altered in any way, and is therefore all the more trustworthy. The only serious blemish is the often unintelligible misspelling of botanical names—presumably due to the ignorance of the copyist. Dübi, p. 9.

[21] Freshfield, pp. 214–216.

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pronounced by two high authorities—Mr. Montagnier and Commandant E. Gaillard [22]—and is surely the simple truth.

But it struck me that after all we have what is really another account by Paccard—very compressed, it is true, but full of detail—in the certificate which he obtained from Balmat and probably had more or less dictated to him,[23] and of which it seems to me no adequate use has yet been made. It turns out that the two accounts supplement one another remarkably well, with very little overlapping. In the following pages, therefore, I offer to the reader a restoration of Dr. Paccard's so-called 'lost narrative,' based mainly upon a conflation of these two sources, of course changed into the first person, and written as if composed in the spring of 1787.

I have inserted a number of details from various other (specified) sources, particularly from von Gersdorf's memoranda, with some touches also from Dumas's account where these seem likely to be based on Balmat's genuine recollections. I have added a certain amount of 'padding'—such as we may suppose would have been used to round the narrative off, or to fill it up in regard to points that had not happened to receive separate mention in the story told to de Saussure, or in the Balmat certificate—and such comments as seemed necessary or useful. Moreover, as in his prospectus Dr. Paccard promised to include an account of the chief attempts made before his successful climb, and as his MS. diary records these at length, and as, further, the matter of these diaries has not previously appeared in English (except some extracts, badly translated, in Mathews' 'Annals of Mont Blanc') and is inaccessible save in Dübi's book,[24] I have prefixed a careful translation of them (occasionally slightly condensed and rearranged for clearness' sake) to the narrative of the first ascent itself.[25] Of especial interest will be found the account of Paccard's own previous explorations in the Tacul basin and round the Aiguille du Goûter. These two passages have needed, and I hope repay, a good deal of explanatory and illustrative comment.

In the following pages *the matter in italics is definitely derived from Paccard himself*, the exact source being shown by marginal references. Each reference holds good for the italicised matter until the next reference letter. Where necessary a thin vertical

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[22] G.M. (1), p. ix.

[23] Even if it were the case, as Balmat seems to have tried, nine months afterwards, to suggest (see *Conclusion*, p. 144) that Paccard obtained his signature by unfair means, it would still be certain that the certificate gives Paccard's version of the points included in it, and is therefore properly available in an endeavour to reconstruct what his narrative would have contained.

[24] And now, as regards his accounts of the attempts of Bourrit, de Saussure and the guides, in G. M. (2), pp. 69, 73, 74, 76, 82.

[25] The only omissions of any importance are (1) some botanical and geological observations *passim*; (2) the notes of a winter trip to La Tour and Trélechamp; (3) most of the rather lengthy details concerning the ascent of the Buet; (4) the accounts of ascents subsequent to 1786. These latter are quoted in Mr. Montagnier's article in *A.J.* **25**, 608.

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line is used to show where the last reference stops. A * in the margin denotes matter not derived from the sources listed below. In such cases the source is stated in the notes. *All additional matter is in ordinary type.* Square brackets are used (*a*) in the italics, to give modern names or, now and then, obvious corrections; (*b*) in the ordinary type, to distinguish additions which involve disputable interpretations or inferences from those which are at any rate uncontroversial, whether they are thought strictly relevant or not. The reader has thus the opportunity of seeing *all that we know Paccard to have said or written on the subject*, and can neglect the rest at his pleasure.

It remains to acknowledge my special obligations to the works of Dübi and Freshfield—without which this paper could not have been written—and to add a list of the chief sources referred to.

D.	Dr. Paccard's MS. diary (text as given in Dübi, pp. 258–273).
v. G.	Baron A. T. von Gersdorf's diary (August 1786); Dübi, pp. 46–55. See note 17 above.
S.	Paccard's story as told to, and recorded by, de Saussure (Freshfield, pp. 214–216).
B.	The certificate obtained by Paccard from Balmat in October 1786. See Dübi, p. 80; Whymper (translation), pp. 26, 27.
Lα.	Paccard's letters to the 'Journal de Lausanne,' 1787. See Dübi, pp. 76, 80, 85; Whymper (translated and summarized), pp. 24, 26.
*L*β.	Paccard's letters to the 'Journal de Savoie,' 1823, 1825 (Montagnier, 'A.J.' **25,** 621, 623, 624; Dübi, pp. 167, 168).
Dumas.	Alexandre Dumas, 'Impressions de Voyage (Suisse),' 1833.
Forbes.	J. D. Forbes, 'Travels through the Alps,' 1st edition, 1843; 2nd edition, 1845, reprinted and annotated by Coolidge, 1900.
Carrier.	M. Carrier, 'Notice biographique sur Jacques Balmat dit Mont-Blanc,' 1854.
Durier.	Ch. Durier, 'Le Mont Blanc,' 1st edition, 1877; 5th edition, 1897.[26]
Whymper.	Ed. Whymper, 'Guide to Chamonix,' 1896, and many subsequent editions.
Mathews.	C. E. Mathews, 'Annals of Mont Blanc,' 1898.

[26] In the preface to his fifth edition Durier says: 'I have altered nothing in what has been called the "legend" of Jacques Balmat. In spite of the discussions about it and the documents that can be brought forward, I hold that the spirit of it is true.' One is tempted to add 'like the story of Alfred and the cakes.' But although this was written just after Whymper had published the Balmat certificates, it was before von Gersdorf's diary or de Saussure's account of Paccard's story were known.

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Gribble.	F. Gribble, 'The Early Mountaineers,' 1899.
Montagnier.	H. F. Montagnier, 'Bibliography of the (early) Ascents of Mont Blanc,' 'A.J.' **25,** 608–640 (1911); 'Dr. Paccard's Lost Narrative' 'A.J.' **26,** 36–52 (1912).
Dübi.	Dr. H. Dübi, 'Paccard wider Balmat,' 1913.
Freshfield.	Dr. D. W. Freshfield, 'Life of H. B. de Saussure,' 1920.
G. M. (1).	H. B. de Saussure, 'Journal d'un Voyage . . . à la Cime du Mont-Blanc,' edited with notes by E. Gaillard and H. F. Montagnier, 1926.
G. M. (2).	H. B. de Saussure, 'Le Mont-Blanc et le Col du Géant,' edited with notes by E. Gaillard and H. F. Montagnier, 1927.

DR. PACCARD'S NARRATIVE.

(*An Attempted Reconstruction.*)

§ 1. My Early Interest in Mont Blanc. The Guides' First Attempt (1775).

As I was born[27] and brought up in the valley of Chamonix, I have been familiar with its glaciers and peaks from my childhood. My father had long resided there, and was the Notary Public of the village. He gave my brothers and myself the advantages of a good education—one of my brothers went into the Church, another into the Law,[28] and as I was fond of science, especially of botany, I took up Medicine. After finishing my medical studies at Turin and Paris, and obtaining my degree of Doctor of Medicine,[29] I returned home to take up the practice of my profession. I soon became more than ever *interested in the study of Nature, alike in her grander phenomena and in her most intimate secrets, and I was often glad to shut my books and leave my room in order to read the book of Nature herself.*[30] I formed botanical and mineralogical collections, made many geological observations, and took barometrical readings for the determination of heights. In 1781 I contributed an article to the Paris 'Journal de Physique' on the

[27] In February 1757.

[28] Freshfield, p. 200.

[29] Doubtless at the University of Turin. Chamonix was part of the Kingdom of Sardinia (except during the years 1792–1814), of which Turin was the capital.

[30] From the introduction to Paccard's paper in the *Journal de Physique* mentioned a few lines further on. See Dübi, p. 273.

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causes of the varied arrangements of rock strata, and in 1785 I had the honour of being elected a corresponding member of the Royal Academy of Sciences of Turin.[31]

Meanwhile I had turned my attention to the problem of ascending Mont Blanc.[32] From my boyhood I was of course aware that M. de Saussure of Geneva, after his first visits as a young man to Chamonix in 1760 and 1761, had offered a reward to any one who should discover a way by which to reach the summit. Nothing much came of this till 1775, when my cousins François and Michel Paccard, with Tissay and Couteran, made a serious effort to achieve the ascent.

D I was away from home at the time,[33] but *a full account, based on Couteran's information, will be found in M. Bourrit's book.*[34] The party slept low down on the Montagne de la Côte, and next day they followed a path to the top of this ridge and crossed the glacier above it towards the [Grands Mulets] rocks. After visiting these rocks, they went further up the glacier, and got high enough to see over the Brévent to the Buet, and to sight the Lake of Geneva. They stopped where the ice slopes steepened,[35] being overcome by lassitude due to the heat in this snow valley, and owing to this and the approach of bad weather they were obliged to return.

§ 2. The Guides' Second Attempt (1783).

D Some time after I returned home *another attempt by the same route was made by Marie Couttet, Joseph Carrier and 'le grand Jorasse'* (J. B. Lombard) *on July 12th, 1783. They slept on* top of *the Montagne de la Côte, and had a good crossing of the Glacier des Bossons, but found the rocks* [of the Grands Mulets] *rotten and difficult. They got as far as where the snow arches over the first rocks at the foot of the little or second Mont Blanc* [sc. *the Dôme du Goûter*].[36] *Here Marie Couttet was taken ill . . . and they turned back, suffering greatly from the*

[31] Dübi, p. 24. [32] See note 156.

[33] Being about 18½, Paccard was doubtless engaged in his medical studies.

[34] *Nouvelle Descriptions des Glacières et Glaciers de Savoye* (Genève, 1785) iii. 159, from which the following details are summarized.

[35] Probably below the Petit Plateau.

[36] This is an accurate description of a place which is easily identified, *e.g.* on Whymper's view from the Brévent (*Guide to Chamonix*, p. 104), or on E. T. Compton's beautiful drawing—evidently based on Whymper's view—in Mathews' *Annals of Mont Blanc* (frontispiece), reproduced also in Freshfield, p. 197. The place (about A on marked photograph) is some distance below the Petit Plateau, and not far above the point at which the direct route to the Dôme du Goûter (used by the guides on June 8, 1786; see § 9) strikes up the slopes to the right. (D on photograph.)

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sun—which blistered their skins—and from the softened snow towards mid-day. They glissaded part of the way down *on their backs, and slept for a while on the Montagne de la Côte.* In Vol. II of his 'Voyages,' published last year (1786),[37] M. de Saussure adds that they lost all appetite, and that le Grand Jorasse seriously told him that if he were to try again by the same route, he would take with him nothing but a parasol and a bottle of scent. M. de Saussure concluded that an ascent by this route was hopeless.

§ 3. My First Attempt (with M. Bourrit) (1783).

In September of the same year (1783) *M. Bourrit* of Geneva D —already well known for his travels in the Alps, his books about them, and his mountain drawings—*came to Chamonix.* M. Bourrit had already paid many visits to our village. He knew my father well, and learned from him many things about the valley and its history.[38] *During a visit he paid to* * *Paris while I was* studying *there,*[39] *we met and spent some pleasant days together, and he had recently sent me a portrait of himself.*[40] He was passionately eager to ascend Mont Blanc,[41] and he invited me to accompany him in an attempt on the mountain, and to bring instruments with me with which to make scientific observations.[42] He had engaged as *guides le* D *grand Jorasse, Marie Couttet and J. C. Couttet. We started on Sept. 15th (1783)* at 3 P.M., *slept in a hut at la Tournelle on the Montagne de la Côte—where my barometer had fallen three inches*

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[37] That Paccard was a careful student of de Saussure's writings appears from a letter he wrote to de Saussure on September 25, 1785, in which he says: 'Les nouvelles que vous découvrez sont mes gazettes les plus précieuses. Je ne désire rien tant que de voir votre nouvel ouvrage (*sc.* vol. ii. of the *Voyages*, published in 1786) qui m'en fournira un magasin' (Dübi, p. 39; *cf.* § 12).

[38] See Bourrit's *Description des Cols ou Passages des Alpes* (1803), pp. 77 *et seq.*; Dübi, p. 146.

[39] Bourrit was in Paris in 1780 (when Paccard was 23).

[40] There is a letter of Paccard's to Bourrit (1782), in which Paccard refers to days they had spent together in Paris, and expresses his thanks for a portrait of Bourrit by himself (Dübi, p. 24).

[41] Goethe, after reading Bourrit's *Description des Glacières* . . ., called him 'ein passionirter Kletterer,' and de Saussure declared that 'M. Bourrit takes even more interest than I do in the conquest of Mont Blanc.'

[42] We now know that de Saussure was unable to lend Bourrit his 'portable barometer,' and had declined to accompany him on this expedition, but had urged upon him the importance of taking a barometer in order that at least the height gained might be determined. Bourrit had then hoped that H. A. Gosse would join him, but, being again disappointed, he was glad enough to get Dr. Paccard to come and bring the desired barometer (Dübi, pp. 24, 25; G. M. (2), p. 70).

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and my thermometer from 15° R. *to* 7° *R.*[43]—and next day mounted to the top of the ridge. *M. Bourrit did not venture to set foot on the ice,* but stayed on the ridge, making three drawings,[44] while *the guides and I made our way up to the broken part of the glacier,* using an axe to cut steps up and down the ice ridges among the crevasses.[44] The thermometer fell to 3° R. Unfortunately *clouds came up and covered Mont Blanc,* and we had to return.

§4. My Reconnaissance by the Tacul Basin (1784).

D Next year, *on June 4th, 1784, with Pierre des Balmats des Barats I made a two days' journey* of exploration *to* the N.E. side of *Mont Blanc.* We went *by the Montanvert* (*where the*

[43] The various barometrical readings which Paccard records are not accompanied by simultaneous readings made elsewhere, except in the case of the readings noted on top of Mont Blanc (§ 14). Indeed, in his correspondence with de Saussure about the use of the barometer, arising out of the letter referred to in notes 37 and 76, he says (Dübi, p. 40): 'As I have ascertained that the barometer sometimes falls at Chambéry whilst it is rising at Chamonix, I have not thought it necessary so far to make use of a comparison barometer, especially one in a distant place.' (The unreliability of comparison readings made at a distance had been noted by Shuckburgh, whose results were known to Paccard.) Paccard's readings consequently cannot serve for *accurate* determinations of the heights reached. I have thought it worth while, however, to calculate these heights by *assuming probable values* for the reading of the barometer and thermometer at Chamonix. Paccard himself speaks of 25 inches as the normal barometric height at Chamonix, and one can usually make a reasonable guess at the temperature there. I have used the standard (approximate) formula (see, *e.g.*, Kohlrausch, *Leitfaden der praktischen Physik,* § 21):

$$h_1 - h_0 = 18{,}450\ (\log b_0 - \log b_1)(1 + \cdot 0045\theta)$$

where b_0, b_1 are the barometric readings at the lower and higher stations, reduced in the usual way to a common temperature,

$\theta = \frac{t_0 + t_1}{2}$ = mean of the temperatures (in ° C.) at } the two
and h_0, h_1 are the heights *in metres* of . . . . . } stations.

It will be seen that Paccard's readings give heights that are pretty near the now accepted values, and are variously over and under these. They may therefore be used to give tolerably reliable heights in cases not otherwise measured, *e.g.* on the Aiguille du Goûter (§ 5). Note that all the readings are in Paris inches, each of which is divided into 12 lines, and each line into 10 tenths. It is of course needless to reduce the readings to other units, since the formula really involves only the *ratio* of the readings. In the present case this gives a height of about 1070 m. above Chamonix, or 2111 m. (= 6910 ft.) above sea level. The top of the Montagne de la Côte is 8495 ft., and they took 2 hrs. to reach this next morning (Bourrit's letter to de Saussure; see next note).

[44] See Bourrit's expansive letter to de Saussure (September 20, 1783), published by Mr. Montagnier in *A.J.* **24**, 420–423 (Dübi, p. 274). The axe is not the ice-axe of modern times, but a short-handled hatchet, which the Chamoniards (especially the crystal hunters) sometimes carried in their belts in addition to their long bâtons. See the portrait of Balmat in G. M. (1), p. xviii. It is probable, as Freshfield suggests, that the ice-axe resulted from a combination of the hatchet with the bâton (*A.J.* **24**, 611).

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barometer was at 22½ inches,[45] *and the thermometer 15° R.*) and some way up the Glacier du Tacul, and *slept*[46] *in a hut on the moraine of the Tacul, below the [Aiguille] Noire, at a place where two glacier valleys meet.*[47] *Here the thermometer stood at two lines below 15° R. and the barometer 3¾ inches (less one line) below the 25 inches at which it normally stands at the Priory.*[48] *That means about 60 toises higher than our sleeping place of last year on the Montagne de la Côte. We made a round on the mountain slopes, and there, and on the moraines, I collected many plants. . . . Next morning . . . we went on some distance* until we got on to the plain of the Tacul, *nearly as far as the [Aiguille] Noire, crossing en route a large number of covered crevasses. The snow began to soften, and we only advanced about a couple of gun-shots' distance in two hours,*[49] *so we decided to go down again to avoid the dangers arising from the melting of the snow bridges over the crevasses.*

The approach to Mont Blanc on this side is difficult. It seems 1)
that one must keep close alongside the [Aiguille] Noire, and even

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[45] Dübi's text (p. 259) is: 'Le baromètre est au montant et à la marque 22 pouces et demi.' The true reading must surely be 'est au Montanvert à la marque . . . [I have since consulted Paccard's MS., which *has* 'au Montanvert']. The reading of the barometer would give a height of about 920 m. above Chamonix, or about 1961 m. (= *ca.* 6430 ft.) above the sea. The accepted height is 6300 ft.

[46] 'Nous avons couché' erased, and 'nous couchons' substituted.

[47] Presumably the well-known spot near the (now dried up) Lac du Tacul, which was later the usual bivouac for those starting from Chamonix to cross the Col du Géant. De Saussure slept here on his famous ascent to the Col (July 2, 1788), which he reached in 7 hours from the bivouac. The Lac is shown on Mr. Lloyd's print of the view from the Couvercle.

[48] This would give a height of about 1354 m. above Chamonix, or 2395 m. (= 7857 ft.) above sea level, which is 284 m. = 145½ toises more than the height in note 43, as compared with Paccard's estimate of 60 toises more. Forbes gives the height of the Lac du Tacul as 7300 ft., so there is probably some error in Paccard's figures. His own calculation that his sleeping-place was 60 toises (= 117 m.) higher than that of the previous year on the Montagne de la Côte would make it

2111 m. + 117 m. = 2228 m. = 7310 ft.

very near Forbes's height.

N.B.—1 toise (= 6 French ft.) = 1·949 metre. Some readers may be interested in a quick and easily remembered way of reducing metres to feet, which I have not seen given elsewhere. Multiply the number of metres by 3, and to this result add $\frac{1}{11}$ of itself. [This gives an approximate value which is often sufficiently accurate.] To the sum add $\frac{1}{400}$ of itself, and the result is the equivalent number of feet correct to about 1 part in 30,000.

[49] It is a curious parallel that Exchaquet and Hill (in 1786, after sleeping on the Couvercle) found the ice-fall of the Géant so difficult that 'seeing *how little advance we had made in two hours*, and reckoning that it would take many more to get through the bad part of the glacier, we resolved to return rather than risk having to pass the night among the snows of the Tacul' (Freshfield, p. 245). The foot of the Aiguille Noire is at about 8260 ft. (Forbes, ed. Coolidge, p. 113).

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over its rocks [50] to avoid the séracs du Géant. *This route then brings one to a glacier, above which is a snow plain,* [51] *towards which several valleys rise from the direction of Courmayeur. The widest of these runs straight to the foot of the mountain behind* [52] *Mont Blanc, and appears to bend to the right towards Mont Blanc behind a granite aiguille* [53] *which hides it. This valley lies so deep below the mountain slopes (which themselves rise to what seems an enormous height above it)* [54] *that it could only lead to Mont Blanc by a very steep couloir.* [55] *An attempt on this side would seem to be most easily made by* [this] *valley in the background, or* else *near Courmayeur by the route which is visible beyond the* [*Aiguille*] *Noire,* [56] *where the innkeeper Abondance of Courmayeur is said to have come in pursuit of a bouquetin, and to have looked down the whole valley of Bayer* [sc. the Mer de Glace [57]]. *Behind* [58] *the Aiguille Percée* [59] *we counted three*

[50] *Cf.* Whymper, p. 119: 'Years ago it was customary to make one's way from the base of the Tacul past the ice-fall of the Glacier du Géant, either *by the lower rocks of the Aiguille Noire,* or by the ice on that side.' In 1863 Freshfield descended by these rocks of the Noire (*From Thonon to Trent,* p. 120).

[51] The wide, gently sloping upper basin of the Glacier du Tacul.

[52] 'Behind' = on the side remote from Chamonix

[53] This I take to be the Tour Ronde.

[54] This appears to be an accurate description of the Brenva valley as seen, or rather inferred, from the upper slopes of the Glacier du Tacul, below the Col du Géant. This may easily be verified on the accompanying photograph.

[55] It is impossible not to be reminded of the magnificent (guideless) climb made by F. S. Smythe and T. G. Brown (by the 'Red Sentinel' and the great couloir on the Brenva face) in August 1927!

[56] *I.e.* the route of the Col du Géant, which, as one goes from Chamonix, turns to the left round the Aiguille Noire. It is remarkable that Paccard seems to know all about this (probably from his father; *cf.* § 3) in 1784, though the first recorded passages of the Col were in 1787, viz. by two guides on June 27, by Exchaquet and two guides on June 28, and by Bourrit with his son and four guides on August 28. Bourrit's account of all this has an important bearing on the accuracy of his version of Paccard's ascent of Mont Blanc. 'The facts relating to the two earliest crossings of the Col du Géant . . . have been frequently distorted. Bourrit appears once more as the principal author of the mischief. . . . If he could manage to cross the "Grand Col" . . . and write the first account of it, he might proclaim the adventure a feat at least comparable to' Paccard's: 'in his own phrase, "a discovery equivalent to the ascent of Mont Blanc." . . . In order to claim for himself the credit for the first passage by a traveller, he boldly omitted all notice of Exchaquet's previous success. . . . Called to account at the time for this omission, Bourrit protested that, having mentioned that two guides had made the first passage, he was not called on to notice any other predecessor. The motive that had led him astray in the case of Paccard and Mont Blanc, viz. his intense jealousy of any climber other than a professional guide, again drew him from the path of truth' (Freshfield, pp. 247, 250).

[57] Montagnier, *A.J.* **34**, 361.

[58] As above, 'behind' no doubt = 'on the side remote from Chamonix.'

[59] Or 'the perforated aiguille.' The 'three granite aiguilles' are obviously the Grand Flambeau and the Aiguilles de Tour and d'Entrèves—as is strikingly clear on the photo referred to in note 54—and therefore the 'Aiguille Percée' must be the Tour Ronde, but I do not know why it is so called, unless it is because of its jagged outline, or the noticeable gap a little below the summit on the right-hand skyline.

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granite aiguilles which are invisible from Chamonix, and there are a crowd of others, repeated in many forms,[60] *so that this is the best place in which to study these granite rocks.*

[We crossed the snow plain towards a rocky island (the Petit Rognon) to examine these rocks more closely and to find an easier descent, and] *we rested* [61] [there] *behind the Aiguille du Midi, where we saw a herd of nine chamois.*[62] *Disturbed by the noise we made, they ascended the moraine of a little glacier, got down without our seeing them, crossed the Glacier* du Géant, *and went up to the* Glacier de *Talèfre, where we saw them above* D

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[60] The great group of the Chamonix Aiguilles, as seen, *e.g.*, from the neighbourhood of the Rognon.

[61] 'Nous *avons couché* derrière l'éguille du Midi.' One would naturally take this to mean 'we *slept* behind the Aiguille du Midi,' as Dübi suggests (p. 28), though with a ?. But:

(*a*) It is very unlikely that they could have slept in any such lofty and shelterless spot, at any rate without making more of it than this single phrase.

(*b*) There is nothing to suggest that they could have been in this neighbourhood so late in the day as to need to bivouac there.

(*c*) Note that where 'nous couchons' above (see note 46) clearly means 'we slept' ('historic present,' as generally in the narrative), it is followed in due course by 'next morning. . . .' The passage here is thus quite different in context, and presumably in meaning.

(*d*) The next sentences, too, follow much more naturally as something seen and done after a rest during the day, than as the first experiences after what would surely have been a miserable night.

(*e*) Note further that on his trip to the Aiguille du Goûter, Paccard describes himself as having been out *two days and two nights* (see § 5), but here as having spent *two days* (and of course the night between). If he had slept out a second night, he would clearly have spoken of the expedition as lasting *three days* (and two nights).

(*f*) It remains to consider whether the times of this suggested route are possible. If they left their hut ('cahute') about dawn, say, at 4 A.M., they might well get up the ice-fall of the Géant towards the foot of the Aiguille Noire by 6.30, and the 'two hours in softening snow' would bring them some distance on the 'plain of the Tacul'—perhaps towards the middle if it—by 8.30. (It is *à propos* to recall de Saussure's observation that on the Col du Géant the mean temperature of the day is attained by 6 A.M.) They could then reach the Petit Rognon by 9.30, and if, after their rest, they left this at 10.30, they would be down on the Glacier du Géant by 12, and up at the Jardin, *via* the Pierre à Béranger, by 2 P.M. I think these are pretty liberal allowances of time. Even if they did not reach the Jardin till 3 P.M., or later, there would still be ample time on a day in June for return to the valley before nightfall.

(*g*) J. D. Forbes's experiences in this region are instructive. After walking up to the Col du Géant from Courmayeur all night, he left the Col *at* 8 *a.m.*, and spent much time trying the descent of the Géant ice-fall on both sides. The party finally escaped *by following chamois tracks as a guide among the séracs on the side of the Petit Rognon, and got down on to the level glacier at* 1 *p.m.* After a halt here, they reached the Montanvert at 3.45 P.M. See his most interesting account, *Travels*, chap. xii.

Coucher no doubt generally signifies *passer la nuit*, but it also means (Littré) *s'étendre, se reposer*. On the whole, I think there can be little doubt that the latter is the meaning here, and that the interpretation I have suggested is substantially correct.

[62] As to these chamois, *cf.* Forbes (*g*), above.

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and beyond the Pierre à *Béranger*. . . . We followed them down and across, and *on the moraine below* the Pierre à *Béranger we found dwarf Achillea. We dined* on the Jardin *below the* Glacier de *Talèfre, where we found some crystals and rock specimens. We then crossed the glacier by the Col de* ,[63] and went down *to a little plain below the Aiguille* [du Moine] *where there are several huts.*[64] *Then we made our way over the grass slopes, and by a little path*[65] *which follows the valley of Bayer* [*sc. of the Mer de Glace*] *under the buttresses of the Aiguille d'Argentière* [*sc. Aiguille Verte*][66] *and the Dru, towards the latter. The plants here—such as Ranunculus glacialis and a Veronica—are dried up by the heat. We came* home *by the rock of Mouret*[67] [*sc. the Mauvais Pas*]. As a result of this journey I concluded that the approach to Mont Blanc on this side would be too long and difficult from Chamonix, though it might be worth while trying from Courmayeur.

At the end of August I had the pleasure of making the personal acquaintance of M. de Saussure, whose writings I had studied with so much interest and profit, and with whom I had exchanged notes on the determination of heights by the barometer. Madame Couteran's inn, where he usually stayed, being full, he lodged with one of my relatives, and

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[63] There is a gap in the MS.

[64] These huts were doubtless used by herdsmen and crystal hunters.

[65] *Cf.* Forbes (1st edition, p. 66; ed. Coolidge, p. 65): 'There is scarcely any part of this (eastern) bank of the Mer de Glace as high as the foot of the Aiguille du Moine which I have not traversed.' [Some way above the Mauvais Pas] 'are some fine pasturages which extend along the foot of the jagged rocky chain which extends from the Dru to the point of Les Echelets . . . and are grazed by cows for a good many weeks in summer. How a cow can . . . ascend and descend pathways which might be pronounced precipitous by even a not fastidious walker . . . may appear sufficiently surprising.'

[66] The Aiguille Verte was formerly known as the Aiguille d'Argentière (which indeed would be an excellent name for it), or more precisely as the Aiguille d'Argentière d'Envers, from Mont-envers (= 'the pasture at the back'), and this was corrupted to Aiguille Verte, which, of course, is quite inappropriate. The mountain is named Aiguille d'Argentière in the map in Auldjo's Mont Blanc (2nd edition, p. 77), and in the list of heights of peaks given by J. D. Forbes (1st edition, p. 119; ed. Coolidge, p. 114) the mistake is noted as having been made, *e.g.*, by Shuckburgh (1775).

[67] Dübi has (p. 28) 'Monvet' and in another place (p. 260) 'Mouvet,' and regards this as a mutilated form of 'Mauvais pas.' But Durier (*Le Mont Blanc*, chap. xiv.) speaks of 'le rocher du Mouret au mauvais Pas.' No doubt Monvet and Mouvet are errors of transcription for Mouret, which is an established name. (I have since found that Paccard's MS. *has* 'Mouret.') Forbes (1st edition, p. 67) says 'the spot has acquired the name of the *Mauvais Pas*, which it bears more frequently than its proper one of La Roche de Moré,' and he marks both names on his map. In his second edition (and so in Coolidge's edition, p. 65) the name is corrected (both in text and map) to 'Muret,' which is nearer to the true sound, though still not exact.

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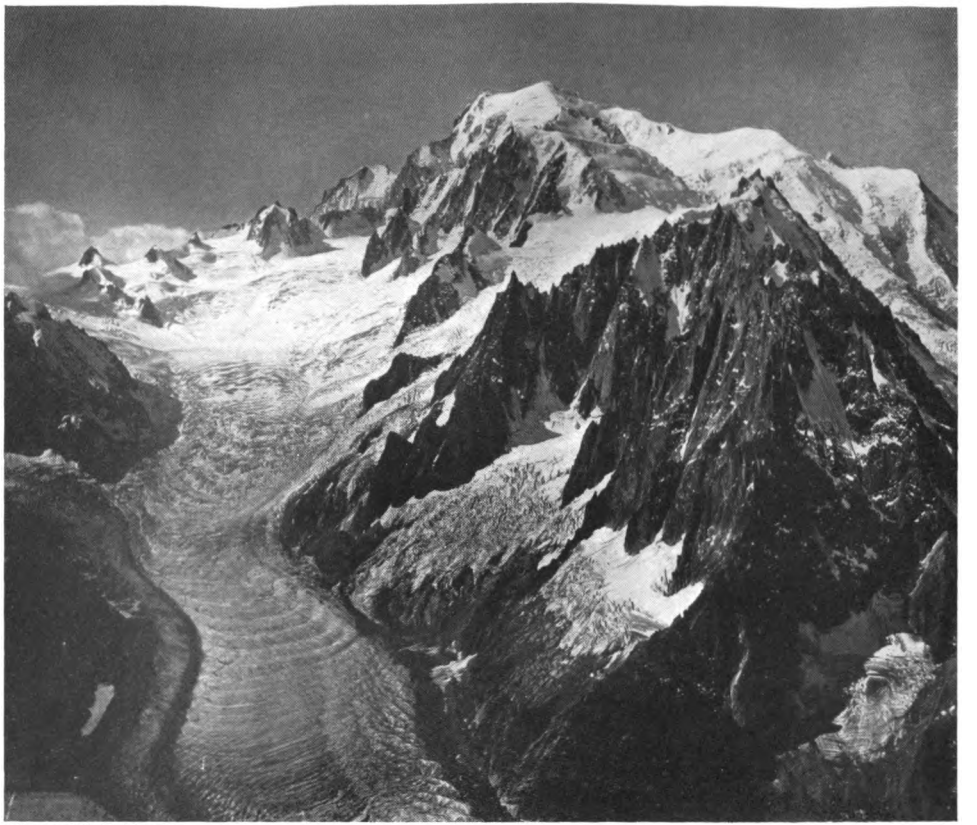

Photo. W. F. Donkin.

MONT BLANC de COURMAYEUR, MONT BLANC
DÔME and AIGUILLE du GOÛTER.

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Photo. P. Montandon.

AIGUILLE du GOÛTER.
From COL de VOZA.

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invited me to supper. We parted with sincere offers of mutual help.[68]

§5. My Reconnaissance by the Aiguille du Goûter (1784).

On Sept. 9th of the same year (*1784*), *with Henry* Pornet, D
I made an expedition towards Mont Blanc on the opposite side of the mountain, viz. *by the* Aiguille du *Goûter.*[69] *We started at 3 p.m., crossed Vausa* [*sc. the Col de Voza*] *and reached Bionnassay*[69] *half an hour after nightfall. After supper Pierre Perraux's son led us across to the left bank of the stream*[70]*—where I broke my barometer—and down to Villette, where Joseph Jaquet lent me his barometer. His son Jean Baptiste led us to La Grua* [*La Gruvaz*], *and although it was past 11 p.m. we went on through the night to the chalets of Miage. Henry Pornet was taken ill, probably through fatigue and drinking brandy,* and this delayed us, so that *we could not reach Miage till about 3 a.m. Here the barometer stood at* $23\frac{3}{4}$ *inches less 1 line, the thermometer at 11° R.*[71]. . . . *We ascended to the Col de Tricot, where the barometer was* $22\frac{1}{4}$ *inches and the thermometer 20° R.*[72] . . . . and went down to the Glacier de Bionnassay and crossed it *to the little plain beside the lower part of this glacier,*[73] where Henry Pornet stayed behind. From here *we ascended by Pierre Ronde and the Rocher Rosset.*[74] *The rocks, which are of hornblende with fine veins of quartz and granite, are rotten and therefore more difficult than one would think. Some way beyond*

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[68] Freshfield, p. 201. De Saussure's first impressions of Paccard are interesting—'a fine fellow, full of intelligence, fond of botany, creating a garden of Alpine plants, wanting to climb Mont Blanc or at least to attempt it.'

[69] Paccard writes Gouté, Bionnasset throughout.

[70] Presumably by the path which runs from near the church of Bionnassay and crosses the stream by a rough little plank bridge. (There is a better path and bridge a good deal higher up, but this would have involved a considerable détour.) If the path was as narrow, tortuous, and overgrown as it is to-day, it is not surprising that a local guide was needed at night, and that even so the barometer got broken.

[71] This gives a height of about 462 m. above Chamonix, or 1503 m. = 4920 ft. above the sea. Vallot's height is 1559 m. = 5115 ft.

[72] This gives 1041 m. above Chamonix or 2082 m. = 6830 ft. above the sea. Vallot's height is 2120 m. = 6955 ft.

[73] Doubtless the stony meadow which borders (on its right bank) the nearly level part of the Glacier de Bionnassay, just above its final ice-fall. A narrow path, with a sign-post directing to the Col de Tricot, now runs to this meadow from near the Col de Voza along the steep slopes (behind the Pavillon de Bellevue) which shut in the upper end of the Bionnassay valley. From the meadow, steep grass and rock slopes lead up to the left by the 'Pierre Ronde,' to the S. of the present terminus of the Chemin de fer du Mont Blanc, and on to the Tête Rousse inn (*ca.* 10,400 ft.), which is probably 1000 ft. or more above the site of de Saussure's hut (§9 and note 91).

[74] The Tête Rousse.

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the Rocher Rosset, below the base of the Roche Bionnassay [*sc. Aiguille du Goûter*], *about three hours above the little plain, I slipped and nearly came to grief, and I wrote my name* on a rock *near by. The barometer stood at 20 inches less 2 lines and the thermometer at 22° R.*[75] *We went on along the side of the Glacier* [de Bionnassay] *on the snow, below the Roche Bionnassay* [*Aig.*
* *du Goûter*], *from which stones constantly fall. . . . I spent an hour*
D *in this ascent along the Glacier de Bionnassay.*[76] | *The route by which to go up the Aiguille du Goûter (here called* [*Aiguille*] *de Bionnassay) would be the* [ridge] *most to the right towards the Glacier de Bionnassay. It would perhaps be possible, but only with much difficulty, to get up the first* [? Aiguille ? ridge] *at the side* [starting] *below the wide snow band which lies amidst these*
* *rocks.* | *It was 6 p.m. when the approach of darkness, the difficulties of the way, and even more the fresh snow, made me resolve to descend.*[78] *At the highest point I reached, my barometer stood*
D *at 18 inches 7½ lines and thermometer 20° R.*[77] | *We got back at nightfall to the little plain (where Henry Pornet was waiting for us), and with the help of our crampons*[79] *we climbed the steep ridge above the huts,*[80] *and crossed Vausa* [*the Col de Voza*], *reaching Chamonix at 3 a.m., after two days and nights of continual walking. I had once more broken my barometer.* This expedition showed me that it might be possible to ascend the Aiguille du Goûter from Bionnassay, but it would be difficult, and dangerous from falling stones.

§6. M. Bourrit's Attempt by the Aiguille du Goûter.

D A week later (*16th and 17th Sept., 1784*) *M. Bourrit* made a similar expedition from the Bionnassay valley. *Bringing two men with him from Sallanches, he met le grand Jorasse and Marie Couttet, who had started from Chamonix on the 15th, at La Grua* [*Gruvaz*], *where he also engaged as guides* ('*conducteurs*') *N. F.*

[75] This gives about 3125 m. = 1605 toises = *ca.* 10,270 ft. The Tête Rousse inn is at 10,390 ft. Note that the heights deduced from Paccard's other readings on this trip are *below* the accepted figures.

[76] From Paccard's letter to de Saussure, September 25, 1785 (Dübi, p. 38).

[77] About 3685 m. = 1885 toises = 12,090 ft. De Saussure's highest point, probably on the same ridge, was about 1900 toises (§ 9) = *ca.* 12,150 ft. The summit of the Aiguille du Goûter is 12,582 ft. = 1967 toises, so that the climbers had got to within rather less than 100 toises, or about 500 ft., of the top, *i.e.* doubtless to about the level at which the rocks steepen considerably. *Cf.* § 9.

[78] From Paccard's letter to de Saussure.

[79] This is almost if not quite the only reference to the use of crampons in the Mont Blanc region at this period.

[80] *Sc.* the chalets above the 'little plain.' This would have been the only convenient way back until the path referred to in note 70 was made.

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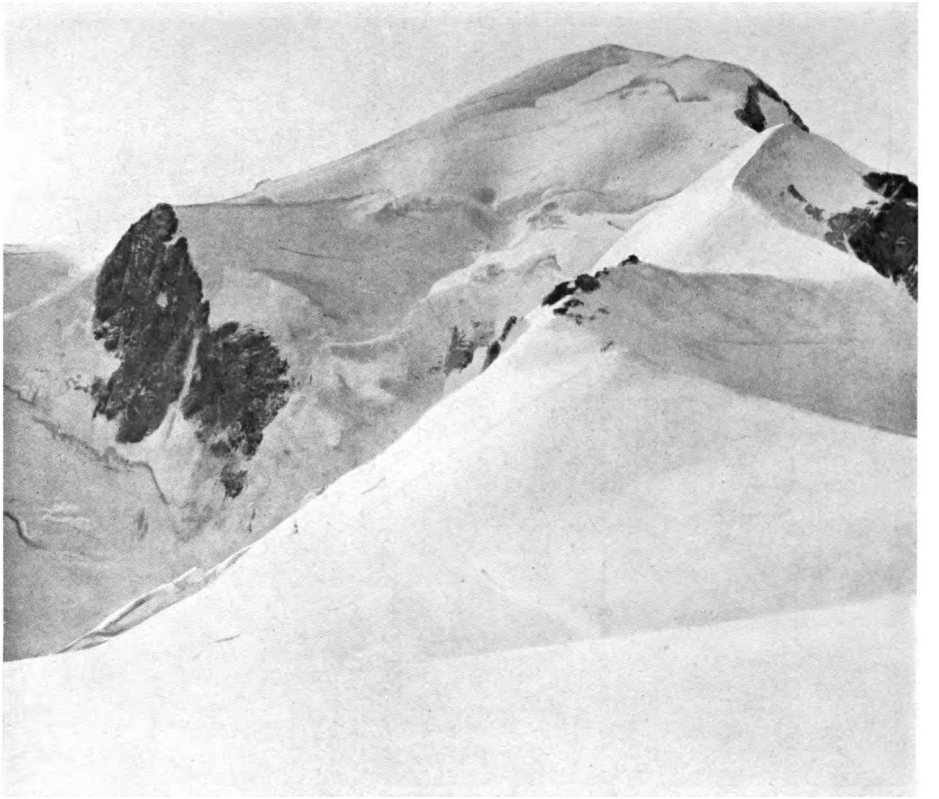

Photo. H. Bregeault.

CORRIDOR, ROCHERS ROUGES, ANCIEN PASSAGE,
MONT BLANC, BOSSES.

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Photo. G. P. Abraham.

MONT BLANC with BOSSES.

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Gervais and Cuidet. On the 16th they slept in the last huts on the right of the stream from the Glacier de Bionnassay (i.e. on its left bank), *although there are some huts farther on, below Vausa* [*the Col de Voza*]. *Starting again at 1.30 a.m. they crossed this stream by the light of a candle in a paper cone, and* halted *below the Pierre Ronde,* where *they made a fire and waited for daylight, a little above the place where Henry Pornet had stayed behind* (§ 5), *below the cross. When day broke, Couttet and Gervais* [81] *left the others and went up to the left, towards Chamonix. They ascended* the Aiguille du Goûter *by the ridge hidden behind the one seen from here* [*sc. from Chamonix*]. *They could not finish the ascent by this ridge, as the rocks overhang, but they cut steps across the snow couloir to the next ridge, which brought them to the top. They are said to have found an easier descent by the next ridge* to the west, i.e. *nearer the Glacier de Bionnassay, beyond the big snow patch* (plaque). *When they were on top of the second ridge, they were seen against the snow by le grand Jorasse from the top of the rognon above the Glacier de la Gria. They caused a fall of stones as it was striking noon at Les Houches.* Meanwhile *M. Bourrit* and the others *had come up to the top of the Pierre Ronde below the Glacier de la Gria, and alongside this glacier to the base of the Aiguille du Goûter where the others* [had] *ascended. M. Bourrit stayed here more than an hour, sketching the view and the valley of Chamonix. But he suffered greatly from cold and headache*—even *by 8 a.m. he was very pale—and* presently *went down to Bionnassay (where he drank some milk) and Bionnay.*

Le grand Jorasse thinks he saw the two *climbers* [? again] *in* D *the hollow behind the Aiguille du Goûter—they seemed to be ascending the snow slope which rises above the Glacier de Bionnassay. They say that they spent six hours above the Aiguille du Goûter—which must be a mistake (faux), as they were back below Vausa* [*the Col de Voza*] *before nightfall—and that they advanced to within about 10 toises* (65 feet) *of the* [*Vallot*] *rocks which are at the base of Mont Blanc behind the second* [*sc. the Dôme du Goûter*], *and that they turned the latter at the back towards the* Col du *Bonhomme. They say that the ridge from the Dôme du Goûter is too steep and would require step cutting. The plain at the end of the Glacier des Bossons* [*sc. the Grand Plateau*] *is fine, but it is not possible to climb the snows that cover the points of the central chain which runs towards the Aiguille*

[81] Bourrit says Cuidet, not Gervais, and so does Paccard in § 10. De Saussure (*Voyages*, tome II) makes the same confusion between these two men of La Gruvaz, giving the name as Gervais in § 1108 (note), but speaking at length of Cuidet in § 1116.

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du Midi.[82] *They did not suffer from heat, and came down like birds. . . . The crystals they brought down came from the Aiguille du Goûter, but they saw others sparkling in the inaccessible rocks* [83] *below which they turned back. They think it would be possible to construct a shelter on the Aiguille du Goûter,* the top of *which consists of flat slate.*

Gervais rejoined M. Bourrit at about 7.30 [84] *at Bionnay and*
D *told him the story of their climb. Couttet went home, and the Miller* [*sc. Lombard, le grand Jorasse*] *gave him first one half-crown* (3 francs) *and then another on behalf of M. Bourrit. They found their own provisions. There was a bet of a crown* (6 francs) *apiece between the Miller, and Couttet and his brother, and I held the stakes. Couttet bet that he had spent six hours on the Aiguille du Goûter. At first he withdrew his stake, telling me that really they had arrived on the Aiguille du Goûter at 9 a.m., contrary to what the Miller asserts, but that after a circuit they had returned there at mid-day to dine, at the time when the Miller maintains that they had only just arrived there.* [In the end Couttet paid up.]

§ 7. My Traverse of the Buet (1785).

The summer of the next year (1785) was wet and stormy, and nothing was done on Mont Blanc until M. de Saussure's
D attempt in Sept. *On August 16th,* however, *I went up the Buet with Madame Desailloud and her son and nephew. We ascended*

[82] 'Ils disent . . . que la plaine au bout du glacier des Bossons est belle, maisqu'on ne peut monter sur les croutes [*sic*] de neiges des pointes de la chaîne centrale qui se dirige vers l'éguille du Midi.' We may safely take this to mean that, from the Dôme du Goûter, Marie Couttet—who plainly must have been Paccard's informant—thought the Grand Plateau easily accessible (as, of course, it is), but saw no hope of climbing the slopes above it. The 'central chain' is clearly the main N.E. ridge of Mont Blanc, running down past the tops of the two tiers of the Rochers Rouges to the Corridor, rising again to Mont Maudit, and descending through the Mont Blanc de Tacul to the Aiguille du Midi—'the staircases of Mont Blanc,' as de Saussure calls them. 'The snows that cover the points of this chain,' as far as any that can be considered as ways of reaching the top of Mont Blanc are concerned, must therefore be the slopes on the opposite side, *i.e.* to the E., of the Grand Plateau. These are obviously the Corridor and the lower and upper Anciens Passages (see note 113), in relation to which the Rochers Rouges are the 'points.' It is not surprising that Marie Couttet thought these slopes hopeless, but, as we shall see, Paccard formed a sounder judgment by observations from a much more distant standpoint, viz. the Brévent (see § 11).

[83] This reference to sparkling crystals seen in these rocks casts a most interesting light on the events of June 8, 1786 (§ 10). It was no doubt a similar appearance that allured Balmat, the crystal hunter, to climb these rocks, and it was while he was doing so that his companions turned down without waiting for the intruder on their plans to rejoin them. This is surely a noteworthy 'undesigned coincidence.'

[84] Bourrit says at 11 P.M., which is more likely.

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by the valley 'Entre les Eaux,' and slept under a rock on the Nollo. Next day we reached the summit over rocks and snow, and came down by the valley of Bérard. I collected many plants and made some instructive observations on the contact of primary with secondary rocks.

§ 8. A Barometric Experiment.

On Oct. 4th 1785 I measured the height of the steeple from its D
foot to the bell chamber, where I hung up a barometer after noting the reading at the bottom and marking it by a strip of paper, cut clean and stuck round the tube. Doing the same above, I found that the mercury had gone down ½ line. Then I measured the height with a string to the end of which a stone was fastened, and found it to be 8 toises 5 feet 3¼ inches. Thus at the Priory, at a height of a little more than 524 toises above the Mediterranean (that being the height of the village), a fall of the mercury of 1 line corresponds to a rise in height of 17 toises 5 feet and ½ inch,[85] *when one carries the barometer from a lower to a higher level without change of weather.*

§ 9. M. de Saussure's Attempt by the Aiguille du Goûter (1785).

Late that summer, *on Sept. 13th and 14th (1785), M. de* D
Saussure with M. Bourrit, the latter's son Isaac, and 9 guides (Pierre Balmat, Marie Couttet, Jorasse, J. M. Tournier, F. Folliguet, J. P. Cachat, F. Cuidet of La Gruvaz, N. Gervais and another of Bionnassay) made an attempt on a great scale on the side of the Aiguille du Goûter. At M. Bourrit's suggestion, *M. de Saussure had had a hut constructed on the Pierre Ronde, over against the lower edge of the vertical icefall of the Glacier de la Griaz,*[85a] *where M. Bourrit had been the previous year.*

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[85] There is a slight error in the figures here, since twice 8 toises 5 ft. 3¼ ins. is 17 toises 4 ft. 6½ ins. It would make it right if we read 8 toises 5 ft. 6½ ins., but the reading as stated in the text is given in words as well as figures in the MS. of the diary. On the other hand, Paccard repeats the 17 toises 5 ft. ½ in. in a letter to de Saussure (Dübi, p. 40), except that he writes 6 lines instead of ½ in., which is the same thing. Actually a fall in the barometer of ½ line would correspond (at Chamonix, and if temp. = about 20° C.) to a rise in height of about 7½ toises. Clearly it was too difficult to measure the small fall (=$\frac{1}{24}$ in.) with much precision. The figure which Paccard quotes as the height of the village (and as less than that of the church), viz. 524 toises, is equivalent to 1022 m., or 3353 ft. The height now accepted is 1041 m. = 3415 ft., which is probably that of the church floor. Some editions of Baedeker give 1033 m. = 3390 ft., which is perhaps the bridge.

[85a] See note 91.

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This was done by Couttet, Tournier and Folliguet on Sept. 11th and 12th in spite of the bad weather—snow fell near the hut. They started down at 6.20 a.m. on the 13th to meet M. de Saussure at Bionnassay, where they arrived at 8 a.m. M. de Saussure had come from home incognito, giving out that he was going to the Little St. Bernard. The whole party started at once and reached the hut at 5 p.m. Two men carried two mattresses weighing about 50 lbs. each; two others took about 50 lbs. of wood each, which was enough for a moderate fire for two nights; two others carried 6 sheets, 5 blankets and 3 cushions; two porters carried the provisions (in a basket for the back and a skin bag), and a third took the ridge pole of the hut. (These three went down again.) The hut was roofed with flat stones, and afforded room for five persons. The others slept round a fire made a few feet from the hut. The party spent a fairly restful night, except young Bourrit, who was sick several times. Next day, Sept. 14 (1785), they started at 6.20 a.m., reached the foot of the Aiguille du Goûter at 8.30, and ascended the ridge (at the base of the mountain) which is seen from Chamonix, and then the ridge behind, which they reached by a traverse towards the Glacier de Bionnassay, crossing two couloirs. They went on till a few minutes past 11, to where the Aiguille is much steeper and seems properly *to begin. M. de Saussure then sent on Pierre Balmat and Cuidet to explore the way. They climbed up steeply for an hour and a quarter, which one may reckon to be about 100 toises (640 ft.), or half an hour's* ascent on ordinary slopes.[85b] *Pierre Balmat shouted down to them that there were two feet of fresh snow ahead. M. de Saussure, who has always shown a great dislike (une horreur) of snow climbing, though he is thought to go well on rocks, decided to stay where he was and make experiments. Everyone was glad, except young Bourrit, who seemed to want to go on, though he had taken nothing but a little brandy and water. M. de Saussure observed the barometer* [86] *and thermometer several times, and these readings gave him a height of 1900 toises (or 1905 toises, according to a letter he sent me).* This is about the same height as I had reached the previous year. *Allowing 100 toises for the height the guides ascended to the top of the Aiguille du Goûter,*

[85b] It is interesting to note that during his three weeks' wait in 1787, before the weather permitted him to start for Mont Blanc, de Saussure experimented on the speed he could attain on the slopes round Chamonix. He found he could ascend from 200 to 360 toises in an hour (G. M. (1), p. 4). At higher levels the former figure would be about the limit possible (say, 1300 ft. per hour), and this is the figure Paccard assumes above.

[86] His reading was 18 ins. $1\frac{3}{4}$ lines.

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this would only leave 426 toises more to the top of Mont Blanc.[87] *This is very surprising, compared with the height of the Brévent (1283 toises), and the apparent heights of the Aiguille du Goûter and of Mont Blanc as seen thence. If a is the height of* *
Mont Blanc above the Aiguille du Goûter, and b that of the Aiguille du Goûter above the Brévent, then $a : b = 2426 - 2000 : 2000 - 1283 = 426 : 717 =$ *about* $4 : 7$, *but* $a : b$ *actually looks about* $3 : 2$.[88] *Perhaps Mont Blanc is higher than is thought—its* *
distance may mislead the observer. It would therefore be doubly desirable to carry a barometer to the summit and observe the reading there. . . . M. de Saussure and his party *started down* D
soon after mid-day. At 4 p.m. they were seen on the snow slope at the base of the Aiguille, *at about the height of the Buet, behind and above the Glacier de la Griaz. For this descent M. de Saussure had himself tied up like a prisoner; he was fastened with a rope under his arms to Pierre Balmat and F. Folliguet behind, while Couttet showed him where to step in front. M. Bourrit leaned on Gervais's shoulder while Tournier held him by the collar. At difficult places a bâton was held as a handrail ('garde-fou'!) for M. de Saussure to lean on, both going up and coming down. Young Bourrit, who was unwell while going up, held on to Cuidet's coat,*[89] *but needed less help than the others on the*

[87] Paccard (like Bonnet, note 115) appears to take 2426 toises as the accepted height of Mont Blanc. Elsewhere (see § 13) he quotes the heights found by de Luc as 2391 toises and by Shuckburgh as 2451 toises, the average of which is 2421 toises. The actual elevation of Mont Blanc above the Aiguille du Goûter is 500 toises (4807 m. − 3835 m. = 972 m. = 500 toises).

[88] The passages marked * are from Paccard's letter to de Saussure (note 76), where his argument is more clearly stated than in his diary. He seems, however, to have gone astray here. Remembering that the top of the Brévent (2525 m.) is about level with the top of the Montagne de la Côte (2588 m.), one can easily verify on any photograph taken from the Brévent that a : b *looks* roughly about 1 : 2 (which agrees well enough with Paccard's calculation), and does not, as he asserts, look to be 3 : 2 (or 2 : 1, as he says in his diary). Perhaps he reckoned that the top of the Brévent was about level with the Petit Plateau. Such estimates of heights seen across a deep valley are very precarious unless checked by actual observation with a level.

[89] It is plain from this and other passages in his diary that Paccard took pains to learn from the guides what they could tell him of the climbs in which they took part. He would, of course, know them all, and doubtless 'doctored' most of them and their families. In the present case he obviously found amusement in preserving in his private notes the guides' stories about the incompetence of their 'messieurs,' who to a certain extent were his rivals or competitors. His own speed and endurance are obvious in spite of the unvarnished simplicity with which he records his performances, *e.g.* in the memoranda of his own chief reconnoitring expeditions, and in the story he told de Saussure of his final climb. It is pleasant, on the other hand, to note de Saussure's freedom from jealousy on this point. In his letter to Tairraz, on hearing of the success of Paccard and Balmat, he says: 'I do not flatter myself that I shall get to the top, for I have neither the youth nor the agility of the Doctor' (Whymper, p. 23).

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descent.[90] *They reached the hut at 6 p.m., where the guides were paid off. They received 6 francs a day, and the whole expedition cost M. de Saussure 15 louis* (300 francs). *The Bourrits went down with the guides to Bionnassay, taking most of the baggage, including the blankets which M. Bourrit had supplied. M. de Saussure remained* at the hut *with Balmat, Couttet and Cachat, keeping all the mattresses and some blankets and three overcoats. Next morning M. de Saussure made barometric and thermometric observations, took some levels (the huts are a little lower than the Buet),*[91] *and collected four or five plants, and some 40 lbs. of stones from the Aiguille du Goûter and the Pierre Ronde. They left at 7 a.m. and went slowly down to Bionnassay, where they arrived at 1 p.m. and had a good dinner. The guides returned to Chamonix, except Pierre Balmat who accompanied M. de Saussure to Sallanches, where they slept.* Nothing more was done that year.

§10. The Guides' Attempt by the Dôme du Goûter (1786).

Next summer, five guides made an attempt to test the relative advantages of two ways to the Dôme du Goûter as
D a route to the top of Mont Blanc. *Joseph Carrier, J. M. Tournier and Fr. Paccard* (my cousin) *slept comfortably in a shelter*[92] *on the Montagne de la Côte, where Joseph Balmat of les Baux joined them* uninvited. He was not really a guide,[93] but a crystal hunter,[94] who wanted a share in the reward

[90] As we have seen, he had wanted to go on when the party stopped. He and his father had the bad taste to reflect, in boastful letters to de Saussure, upon the latter's climbing powers, and were suitably rebuked (Freshfield, p. 204).

[91] The height of the Buet is 10,200 ft., so if this observation is correct, the hut was not as high as the present Tête Rousse inn, viz. 10,400 ft. In fact de Saussure tells us (*Voyages*, tome II, § 1109) that his hut was at about 1420 toises = 9080 ft. It was probably on the ridge now known as Les Rognes, which crowns the slopes then called Pierre Ronde. (De Saussure remarks that the origin of the name is obscure, since there is nothing specially "round" in the neighbourhood.) This ridge runs roughly parallel to, but below, the Tête Rousse ridge at the base of the Aiguille du Goûter. The Glacier de la Griaz lies between these ridges. De Saussure rightly observes (§ 1120) that his hut should have been 200 toises higher, *i.e.* just about where the Tête Rousse inn now stands.

[92] At Bec à l'Oiseau (Dübi, p. 41).

[93] Bourrit's letter to Miss Craven: August 13, 1787 (Dübi, p. 92). The *Joseph* Balmat is probably a mere slip of the pen—perhaps a careless repetition of the *Joseph* Carrier. Les Baux is the name of the upper part of the village of les Pélerins.

[94] He is so described in the complimentary portrait of him by Bacler d'Albe (Dübi, p. 96; Gribble, p. 162; reproduced here in colour from a fine print belonging to Mr. R. W. Lloyd).

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offered by M. de Saussure, which it was plain that the others were hoping to gain. They naturally looked somewhat askance upon him. *Next morning, June 8th 1786, they started early for Mont Blanc. On the same day Pierre Balmat and Marie Couttet, who had slept* in M. de Saussure's hut *on the Pierre Ronde above Bionnassay, went up* from there by the Aiguille du Goûter. *There was still much snow* low down, e.g. *on the Brévent and the Montagne de la Côte, but in the morning the snow bore well. The party that started from the Montagne de la Côte were the first to arrive on the Dôme du Goûter and to reach the foot of the final summit of Mont Blanc at the plain* [*sc. Col du Dôme*]. *According to what they say, they went on to the rocks that can be seen there from Chamonix* [*sc. the Vallot rocks*]. *They assert that it is impossible to go that way to the top—on the one side is the precipice above the Vallée Blanche, on the left are steep and broken snow slopes which protect it from approach. It seems from there that it would be better to approach behind the Aiguille du Midi. They built a stoneman on the* [*Vallot*] *rocks which should be visible from the mill at les Pras, but saw nothing of the one said to have been built by Cuidet and Couttet—on the contrary there was not a stone displaced at the spot pointed out by Couttet as that at which they had made theirs. . . . The party from Bionnassay arrived* on the Dôme du Goûter *after the other four, who had seen them on the shoulder of the Aiguille du Goûter looking like two chamois. The parties shouted to each other, and the two ascended to join the others, but were very tired, especially Pierre* Balmat *des Barrats. Almost all of them felt a kind of faintness. The one from les Baux was revived by some fresh water which he found on the rocks, and he went on alone up these rocks looking for crystals.*[94a] *The others,* without waiting for him, *turned to go down—bad weather was coming up and hail began to fall. They reached Chamonix at 10 p.m., having come down pretty much from the top of the Montagne de la Côte by night. Balmat stayed a long while behind the others, and was caught by the darkness of night while still on the snow. He was following the tracks of the others, who had been sinking in up to their knees, although the snow was hard in the morning. Having felt with his bâton a crevasse which the others had jumped, and not being able to see clearly, he dared not go further, but putting his bag under his head,* his handkerchief over his face,[95] *and his snow shoes*[96] *under his back, spent the night on the snow. Next morning his clothes*

[94a] See note 83.

[95] Dumas.

[96] 'Ses cercles.' This is interesting, and appears to be the only reference to the use of snow shoes on Mont Blanc.

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were frozen, but he got down safely to Chamonix by 8 A.M.[97] *Most of the party were sunburnt—Tournier was as red as the* great *fire at les Pras. His skin came off in scales a few days later.*

§ 11. Discussion of Possible Routes to the Summit.

This party thus confirmed the opinion of M. Bourrit's guides in Sept. 1784, that the ridge leading from the Dôme du Goûter towards the summit was too steep and narrow to afford much hope of success in that direction. My thoughts therefore turned again to the possibility of finding a way over
B the snow slopes above the Glacier des Bossons. *During the last*
L β *three years I had often examined this part of the mountain | through the telescope from the Brévent.* It was pretty plain that it would be possible to advance from the top of the Montagne de la Côte to the great snow plain [the Grand Plateau] immediately below the summit, though the crevasses in the lower part of this route would probably cause a good deal of trouble. Three parties however—in one of which I had taken part—had already, as related above, gone some distance towards the great snow plain. But the summit rose far above this plain, and the final slopes were evidently high and steep, and no one had yet got
D near them. *Marie Couttet, who had examined these slopes from the Dôme du Goûter* (§ 6), *thought them hopeless. It seemed to*
S *me*, however, *that one might be able to climb them by a broad bank of snow that slopes steeply up to the left* from the Grand Plateau, between two tiers of perpendicular rocks, towards the eastern shoulder of the mountain, from which, on turning to the right, one would have an easier incline to the top. Unfortunately
L 3 *the bank of snow was exposed to avalanches* from the ice cliffs above it. I observed, however, that *when the snows were low and settled the risk of avalanches was small. Even if that did not prove to be the case, it would be possible to effect another route from the Grand Plateau along the foot of the truncated rock*,[98] i.e. the tier of rocks whose cut-off top supports the bank of snow referred to before, *passing round this and the Rochers Rouges* to the gap above the Glacier de la Brenva and thence to the right to the top. Either of these routes would be a very
B long climb, and *I thought it almost certain that one would have to sleep high up on the mountain.* Now Balmat's adventure had

[97] In Dumas's narrative, Balmat says he took 5 hrs. to come down, arriving home at 8 A.M., which is probably correct.

[98] This is no doubt the lower tier of the Rochers Rouges that forms the flat-topped cliff which overhangs the 'corridor.' The route by the corridor was actually first traversed in 1827, a few months after Paccard's death, note 113.

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Mont Blanc from the Brévent, from an early print in the collection of R. W. Lloyd illustrating the paper by E. H. Stevens on Dr. Paccard's "Lost Narrative."

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shown that this was possible without excessive risk, and *I determined to make another attempt. My own guide was away, and so when Jacques Balmat offered his services,* as he seemed a strong and enterprising fellow *I accepted his offer and engaged him as porter.*[99] | I should have preferred to take another man or two to share the labour, but Balmat was averse from this, | [100] wishing no doubt to earn the whole of the reward offered by M. de Saussure. Of course he knew that I should claim none of it. La *

It was necessary to wait for good weather and a favourable state of the snows. At last, after three weeks' unsettled weather, we were able to start on Aug. 7th. *I had told Balmat I proposed to go by the Montagne de la Côte. This led him to think I meant to try again by the guides' last route,* viz. that by the Dôme du Goûter, [and he told a 'marchande de sirop' to look out for us in that direction [101] about 9 A.M., when he reckoned we might be there. All the same] *in view of his experiences* on June 8th *he did not think there was much chance of success* by that route. I explained that I had reconnoitred the routes by the Glacier du Tacul and by the Aiguille du Goûter, and had rejected both, but *I now intended to keep straight on from the Montagne de la Côte to the Grand Plateau,* and find a way up from there. Balmat was then in favour of this as the likeliest of the three routes I had in mind.[102] B

[99] 'Comme ouvrier,' as stated in the letter (anonymous, but undoubtedly emanating from Paccard) which opened the correspondence unearthed by Whymper in the pages of the *Journal de Lausanne,* February 24, 1787. See Whymper, p. 24; *cf.* also note 148.

[100] This is from Balmat's story as told by Dumas (see, *e.g.*, Mathews' *Annals of Mont Blanc,* p. 64), but it seems extremely probable.

[101] I have always thought that this statement of Balmat's to Dumas—who could not have invented it—was an unintentionally truthful touch, though of course it is inconsistent with Balmat's own claim to have discovered the 'Ancien Passage,' and to have intended to lead, and to have led, Paccard that way. It is confirmed by the remark later in his story that (at the Petits Mulets) 'just then I was thinking only of the *marchande de sirop* who ought to be watching the Dôme du Goûter'—though it is true that was at 6 P.M. instead of 9 A.M.! It must be added that on this point Durier (in chap. VII. of his *Le Mont Blanc*) makes considerable use of a letter (of January 26, 1839) written by Gédéon Balmat (son of Jacques Balmat) to M. le Pileur and communicated by him to Durier. The letter seems not to have been seen since then and cannot now be traced (Dübi, p. 199). In it Gédéon Balmat is said to have stated that the *marchande de sirop* was told *by Paccard* to look out (no time being mentioned) *with a telescope* (scarcely a likely possession for such a woman) for two men *on the Rochers Rouges,* and that she was the Doctor's 'bonne amie.' The story is improbable, and was plainly designed, when Balmat and Paccard were both dead, to remove an obvious blemish from Balmat's narrative.

[102] This, I suggest, is the simple explanation of the astronomer Lalande's remark (1796) that Dr. Paccard told him he had projected three routes, but Balmat made him prefer that *by the Montagne de la Côte.* (I take this, therefore,

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§12. From the Montagne de la Côte to the Grand Plateau.

Accordingly we started soon after mid-day on Monday August 7th, and went up to the Montagne de la Côte, taking with us a blanket, provisions, a thermometer, a compass, and a barometer with a tripod stand.[103] We slept in a shelter
S on the top, and *started next morning*, Tuesday *August 8th* 1786,
B *at 4.0 a.m.*, | *Balmat carrying* most of the provisions and of the
* instruments I have mentioned. It was a cloudless morning,
v.G promising a splendid day,[104] | and indeed the weather remained extraordinarily fine throughout.[105] | We began almost at once
S *to cross the Glacier des Bossons towards the chain of dark rocks*

as one of the three, not a fourth.) Durier, it is true, regards the remark as decisive in favour of Balmat's claim to the discovery of the route. 'Ce simple aveu tranche le débat' (Ed. 5, p. 109). If it stood alone it might have weight, but I agree with Freshfield and Dübi in thinking that it cannot avail to overturn all the evidence that points the other way, especially in view of the interpretation I have suggested, which involves only a trifling misunderstanding on Lalande's part. I do not agree with Dübi's idea that the route to the Dôme du Goûter, taken by the guides on June 8, 1786, is one of the three Paccard is said to have had in mind, nor that that route is properly described as one 'through the snow valley'—a description that better suits Paccard's own route. Involved with this is Dübi's view, which seems clearly to be mistaken, that the guides' route diverged from Paccard's near the Petit Plateau. To turn to the right thence would be to ascend the very steep slopes of the Dôme du Goûter, from or over which avalanches frequently fall. The point of divergence was obviously some distance lower, as is shown on the marked photograph and by the track to the Dôme du Goûter on the map given in Durier's *Le Mont Blanc* and reproduced in Mathews' *Annals of Mont Blanc*. (Dr. Dübi tells me that he now agrees with this.)

It is likely enough that on hearing Paccard's plan, Balmat remembered the look of the 'steep slope' (which he, like Marie Couttet (see § 6), may have noticed [on June 8] from the Dôme du Goûter or the Vallot rocks), and now realized that it might be the long desired route. From this *it would be an easy step in his mind to the belief that he had actually invented the route* as a result of his explorations on that day. This is the more likely, as his other lies are generally adaptations of what he had seen or heard elsewhere (*cf.* note 4), and it is in my opinion the most we can allow him in respect of his claim to have discovered the way (*cf.* note 115). It is, however, only fair to him to remember that next year he found the 'easier way,' presumably by the (upper) 'Ancien Passage,' by which he led de Saussure to the summit. This would naturally have strengthened his claim in his own later recollections, though, of course, it does not excuse his original pretension.

[103] It is plain from the whole tenor of the narrative that they took no rope (the proper use of which was unknown in Chamonix till a good deal later), and not even the short-handled axes then in use (note 44). In any case they could not have carried much in addition to their bâtons and the instruments. The barometer in particular must have been a detestable impediment, and it is no wonder that it got damaged on their hurried and dangerous moonlight descent. It is perhaps not generally remembered that they had it with them—Balmat no doubt carried it for most of the way (*cf.* p. 128, middle)—but it must be borne in mind in considering their achievement. Paccard's barometer was doubtless of a similar model to de Saussure's, which may be seen in G. M. (1), p. 24. Compare Whymper's drawing of J. A. Carrel loaded with the barometer which he carried in the Andes.

[104] Dumas. [105] Von Gersdorf (see note 17).

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Photo. H. Bregeault.

SÉRACS of the 'JONCTION,' GRANDS MULETS,
DÔME du GOÛTER, MONT BLANC.

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[*the Grands Mulets*] *above us on our left, where Monsieur de Saussure has since* (*Aug. 15-20*) *had his second cabin built.* We soon got into serious difficulties.[106] The glacier was very broken, and there were a great many wide and open crevasses, besides many others covered with snow.[107] Balmat had passed this way two months ago, and from what he told me it was plain that all this part of the glacier was much easier then, as *most of the crevasses were choked, and the winter snow is firmer than that which falls in summer.* In spite of the awkward load he was carrying, Balmat was very helpful in finding the way across or round the crevasses.[106] But we had to make many détours, and lost much time in finding and forcing a passage. *As we got nearer the* [*Grands Mulets*] *rocks, the crevasses became more numerous* and formidable. *Four times* in all *the snow bridges, by which we tried to cross the crevasses, gave way beneath our feet, and we saw the abyss below us. But we escaped a catastrophe by throwing ourselves flat on our bâtons laid horizontally on the snow, and then, placing our two bâtons side by side, we slid along them until we were across the crevasse.*[108] All this took a great deal

[106] I think this fairly represents the truth behind Balmat's story to Dumas. 'The Doctor's first steps on this sea, in the midst of these vast clefts in whose depths the eye loses itself, on these ice-bridges which you feel cracking beneath you and which, if they gave way, would carry you to destruction, were somewhat unsteady. But gradually he recovered confidence as he saw how I managed, and we got clear of the difficulties, safe and sound.'

[107] *Cf.* de Saussure's account of his experiences at the same place on nearly the same date in the following year (Freshfield, p. 226): 'The entry on the glacier proved easy, but soon one plunges into a labyrinth of séracs divided by great crevasses, some entirely open, some choked with snow, others crossed by frail arches which are the only safe means of traversing them. In places a narrow ice-ridge serves as a bridge. . . . There are moments when it seems that it must be impossible to find a way out.'

[108] There is a detailed account by de Saussure of a similar escape on an excursion below the Aiguille du Midi (*Voyages*, § 675; Freshfield, p. 165). 'Suddenly the snow gave way under both my feet at once; the right, which was behind, rested on nothing, but the left had still some support, and I found myself half seated and half astride on the snow. At the same moment Pierre (Balmat), who was close behind me, fell also in almost the same position . . . his two feet were both in the air, the snow had even given way between his legs, and through the opening he saw, beneath himself and me, the void of the green depths of the crevasse. . . . He placed in front of me the two crossed bâtons, and I threw myself on them, Pierre in turn did the same, and we thus both happily escaped from our *mauvais pas*.' (They had another guide who was in front and did nothing to help. 'But he told me afterwards very quietly that he had reflected that if Pierre and I fell into the crevasse, it would be as well that he should remain clear of it to get us out'!) A narrow escape—but Paccard and his companion had four such nerve-racking experiences in a few hours. Remember that their bâtons were 8–9 ft. long (*cf.* note 114). Bordier (*Voyage Pittoresque aux Glacières de Savoye*, 1773) tells us that Alpine peasants were in the habit of holding these long bâtons horizontally while crossing a glacier, so that in case of a fall the two ends might catch on the sides of the crevasse, and the mountaineer seize the moment to spring out! (Freshfield, p. 284).

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of time, and *it was mid-day by the time we got past the* [*Grands Mulets*] *rocks.*[109] *We left these well to our left, swerving towards*
B *the foot of the Gros Mont* [*sc. the Dôme du Goûter*], | but *leaving*
on our right *the route to the Dôme which the guides had used on*
S *June 8th, and which I had decided not to follow.* | *We kept close along the foot of the Dôme,* and after mounting a steep incline we came to a snowy plain [the Petit Plateau], with steep snow slopes on our right, and the remains of avalanches which had fallen from them.

The glacier was not so difficult here, though at these higher levels *there was much fresh snow* from the preceding bad weather, which *tried our eyes* in the brilliant sunshine, and tired our feet.
B *Balmat was discouraged* by the labour and the lateness of the hour, *and wanted to turn back, saying that he had promised to get back home* that evening *to help his wife with their sick child.*[110] *I thought this was a mere excuse,* and insisted on proceeding, but *I relieved him from time to time of some of his load, and did all I could to encourage him to keep on with me.* (I am grieved to say that, as we found on our return, *the sick child died that*
S *very afternoon.*) After mounting another steep incline *we found ourselves,* about 3 P.M., *on the great snow plain, or at least the very gently inclined snow slope* [the Grand Plateau] enclosed between the summit of Mont Blanc on the south, steep slopes descending to the head of the Glacier des Bossons on the east,
* and the Dôme du Goûter on the west. From here there is scarcely anything to be seen but snow, pure and of a dazzling whiteness, contrasting strangely with the almost black sky of these lofty regions. No living being is to be seen, no trace of vegetation ; it is the abode of frost and silence.[111] Arriving

[109] Probably the highest point of the Grands Mulets chain, which is a good way above the Grands Mulets themselves. (It was on these higher rocks that de Saussure's hut was made.) But even so, 8 hours is a long time for this part of the climb. The difficulties were evidently very serious. They were particularly emphasized in the first accounts of the climb given to de Saussure (by von Gersdorf and perhaps by Balmat), for in his letter (five days after the ascent) to J. P. Tairraz he says : 'As it appears that it is very troublesome to get across the glacier which is above the Montagne de la Côte, I want you to send five or six men to level the way, so far as such a thing is possible.' Bourrit, too (in the account of his crossing of the Col du Géant), says : 'The most dangerous part of Mont Blanc is the Glacier de la Côte.'

[110] Judith Balmat, aged 18 days.

[111] Adapted from de Saussure, who adds : 'When I pictured to myself Dr. Paccard and Jacques Balmat arriving in this wilderness at the end of the day, I admired their strength, spirit and courage.' Considering the great interest Paccard's story aroused in his mind, this sounds like an echo of what he heard from him. There is another hint of the climbers' natural feelings at this point in Bourrit's mention—derived from Balmat and repeated in several of the earliest references to the ascent—of their anxiety and uncertainty about 3 P.M.

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in this wilderness late in the afternoon, with no possibility of shelter or help, we had need of all our strength and courage to pursue our course. *As we crossed the plain, we endured* S *great fatigue because the surface was covered with a thin crust which alternately bore us and gave way beneath our steps. Balmat* now *said he could not go on unless I was prepared to take the lead from time to time, and to break the snow. I did this all the way from here to the top.*[112]

§13. From the Grand Plateau to the Top.

From the Grand Plateau, the new route I had planned turned B.S *to the left up the steep snowy bank* | I have mentioned, *planted* L.S *between two lofty and perpendicular tiers of rocks [the Rochers Rouges], bare of snow.* | *I went in front to show the way here,* B | and we climbed this bank, *skirting the base of the summit of* S *Mont Blanc,* which rose far above us on our right, and *mounting along the top of the left hand tier of rocks.*[113] | The slope was steep *

[112] This is fully confirmed—as far as the last part of the climb is concerned (*i.e.* from the Rochers Rouges to the top, which alone von Gersdorf watched)—by von Gersdorf's precise memoranda.

[113] De Saussure measured the steepest part of the 'Ancien Passage' as 39°, and the two slopes are about parallel. The fact that Paccard and Balmat ascended by the slope *between* the two tiers of the Rochers Rouges only became known when Freshfield published de Saussure's notes of the account Paccard gave him on August 22. It is the *left*-hand slope in the illustration in Mathews' *Annals of Mont Blanc*, p. 104 (Whymper, p. 21). Next year Balmat told de Saussure that he had found an easier route, which was doubtless the slope above and to the right of both tiers of the Rochers Rouges. It is shown on the *right* of the illustration referred to, and, though narrower, certainly looks less broken and difficult than the other. It is known as the 'Ancien Passage,' and was followed by de Saussure and by all the subsequent (eleven) parties down to 1827, when the way by the 'Corridor' was adopted to avoid the avalanches which endanger the Ancien Passage. *This had been foreseen by Paccard* (see § 11). Paccard's track on this part of the ascent is shown in the photo in G. M. (1), p. 16, but this is an oversight, as that illustration is intended to show de Saussure's route. When there is need to distinguish the two routes, Paccard's might be called the *lower* A.P., and the one used for the next forty years the *upper* A.P. Both are seen on Abraham's photo, herewith.

I only know of one instance in which the *lower* A.P. was again climbed, viz. by Mr. T. S. Kennedy in July 1865. Hudson and Hadow were in the party, and the (very rapid) ascent was made immediately after the second ascent of the Aiguille Verte and a week before the Matterhorn catastrophe. (It will be remembered that Hudson told Whymper that Hadow had climbed Mont Blanc 'in less time than most men.') The account in *A.J.* **3**, 75, is singularly indefinite as to the route, but in *A.J.* **6**, 171, Kennedy makes the fact clear. He is describing his ascent (the first) by the Glacier du Mont Blanc with Johann Fischer and J. A. Carrel on July 2, 1872. On the descent, soon after 1 P.M., 'I made for *the slope between the two Rochers Rouges by which, 7 years before, my ascent had been effected.* A break in the mist showed us *a steep slope with big crevasses,* and Fischer declined to take that way. (It seems that *this short cut* cannot now be used, as the ice has become more difficult than formerly).' (My italics.)

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—it must have been somewhere near 40°—and the snow was hard, and we had to make holes with the iron points of our bâtons in order to prevent ourselves from slipping.[114] It was fatiguing and nervous work, with the precipice ever on our left
v.G hand,[115] | but about 5 P.M. we reached the top of the slope. Here, as we afterwards heard, we came clearly into view to those who were looking out for us with telescopes from Chamonix. They had caught sight of us several times during our ascent, but as we were now in shade, but visible against

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The *upper* A.P. has occasionally been traversed in modern times by parties with foreign guides. Mathews (p. 254) says: 'The shortest way from Chamonix to the summit of Mont Blanc is by the [upper] Ancien Passage.' (The lower A.P. is probably shorter still.) 'It has been seen how dangerous this route may be in certain conditions of weather and snow. In settled weather, however, and with a North wind the route is perfectly safe.' (*Note that this exactly accords with Paccard's judgment and his actual experiences.*) 'After the accident to Capt. Arkwright's party in 1866 the Chamonix Guides' Bureau forbade the use of this route—a foolish step.'

[114] This must have been hard work, but it is to be noticed that the bâtons they used were better adapted for the job than the alpenstocks of later times. To judge by the portraits of Balmat (see Mr. R. W. Lloyd's print, and especially G. M. (1) p. xviii), his bâton was a stout pole some 8–9 ft. long, shod with a heavy conical point like a spear-head. This, if used like a crowbar with which one makes holes for posts, would fashion a decent step in frozen snow.

[115] Based on the narrative in which M. Carrier (1854; *cf.* Introduction, p. 100) tells the story, which he says he had obtained from Balmat's own lips, of the latter's (asserted) discovery of the 'Ancien Passage,' of which this is the *only* account. It is repeated verbatim by Venance Payot (1869) and Stéphen d'Arve (1876). There is nothing about it in Dumas, who only says that Balmat crossed the Grand Plateau and arrived at the Brenva Glacier, whence he saw Courmayeur and the Aosta valley. But Carrier's account of the slope and its difficulties rings true, and *exactly suits the conditions of the ascent by Paccard and Balmat. It is, however, entirely inconsistent with the rest of Balmat's tale as told by Carrier.* According to Carrier, Balmat left the Grand Plateau *at dawn* (on June 9) and ascended the slope leading to the top of the Rochers Rouges, on which he 'felt extreme weariness and fatigue'—an hour or two after starting! On top of the Rochers Rouges he 'was again frozen through and through, and almost dead with hunger and thirst.' Paccard and Balmat were in that state at 5 P.M., in a bitterly cold wind, after 13 hrs.' climb, but why should Balmat be so, early in the morning, after two or three hours? The climax of absurdity follows. 'It was late, I must descend'—at seven or eight in the morning! *Clearly the passage embodies Balmat's recollections of his experiences when Paccard led him up the critical slope late in the day,* and not on any mythical solitary ascent in the morning. The Dumas version, which, as quoted above, ascribes the discovery to the afternoon of June 8, is less absurd on this point, but puts an incredibly great amount of climbing (descent to the Grand Plateau, ascent thence to the top of the Rochers Rouges or to the Col de la Brenva, and descent to the Grand Plateau on an afternoon of bad weather, following on three days' and nights' climbing and exposure) into the four hours or so of daylight left after Balmat's desertion by the other guides. (Carrier's version was no doubt intended to relieve the narrative of this absurdity, but betrays itself as an unskilful invention by the inconsistencies I have pointed out.) Moreover, Balmat's claim to have discovered the Ancien Passage is flatly contradicted by his own certificate to Paccard. See further on p. 150.

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the still sunlit slopes beyond, we were very conspicuous for a while as we hastened along the more level part.[116]

Having thus borne a good deal to the east, we now turned to S
the right, i.e. southward, towards the final slope leading to the summit, *near the foot of which are some patches of rock sticking out of the snow* [*the Petits Rochers Rouges*]. This slope was less steep, and the snow, which had been in full sunshine all day, was less hard than the slope we had just come up. But the evening was fast coming on, *a bitterly cold* N.W. *wind had sprung up which affected our breathing*, we were hungry, thirsty and tired, and the summit looked still a long way off. *I had* B
foreseen the probability of having to sleep out, and I now told Balmat to look out for a camping place while I examined the rocks I have mentioned, and collected some specimens. *But no suitable resting place could be found*, and I had to make up my mind whether to turn back defeated when thus within sight of our goal, or to go on and risk being benighted on the descent.[117] The weather seemed settled—the wind was from the north—and if we could reach the top and start down again in not much more than an hour, there would be some two hours of daylight left for the most difficult part of the descent, and after that, provided it remained clear, we should have moonlight to help us. So *I resolved to make a push for the summit,* B
hoping to reach the goal of our efforts that evening and get back in safety. *I called to Balmat to follow me*, and we left the v.G
rocks [the Petits Rochers Rouges] at 5.45 P.M. *At that moment* B
a violent gust of wind carried away my hat (although it was tied on by strings) towards Courmayeur, *and we saw it no more.*

The remainder of the way presented no particular obstacles, but was very toilsome. Breathing became difficult, and our fatigue was excessive. Fortunately *the snow was neither too* S
hard nor too soft, and we were able to climb it without making holes for our feet. *But we had to stop every hundred steps*[118] *or so*

[116] See von Gersdorf, note 17.

[117] In a vivid and most moving discussion of climbers' chances of success or disaster in various circumstances, Durier points out (*Le Mont Blanc*, 1st edition, p. 470; 5th edition, p. 406) that on the respective routes the Mur de la Côte, the foot of the Bosses [and, we may add, the top of the Rochers Rouges] are the last and most critical stages for decision in doubtful conditions. As far as I know, no subsequent party has had to make the fateful decision so late in the day. We cannot but admire Paccard's courage, judgment, and energy in resolving to go on, at 5.45 P.M., at a height of 15,000 ft., after 13½ hours' arduous pioneer climb, during which he had ascended some 7000 ft., for the most past over glacier slopes never traversed before, with only one companion, without rope or ice-axe, and several times in imminent danger of destruction.

[118] See von Gersdorf, note 17.

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to regain breath and strength, and the higher we got the oftener we had to stop, down to every fourteen paces. I remembered M. de Saussure's experiences on the Buet—described in vol. II of his 'Voyages' recently published—*and had good reason to confirm his theory of the periodicity of fatigue and recovery, for after a rest our strength immediately came back.* It was too cold to stop anywhere for long, and my hands got so frozen that *Balmat lent me one of his fur gloves in exchange for one of my leather ones. We made a short halt in the shelter of the two little rocks which are visible from Chamonix and are perhaps 100 paces below the top*
B *[the Petits Mulets], | while I examined these and collected some specimens.* I noticed that these rocks showed a vertical
S.v.G. stratification.[119] *The cold, however, drove us on* | at 6.12, and
B *I made direct for the top, while Balmat,* who was carrying a heavier load, *bore away to the left* [120] *to find an easier slope, and had to run to reach the summit at the same time as I got there,*
v.G.S. viz. at 6.23.[121] *On the final slopes I observed* [what looked like]
Lβ *large hailstones*[121a] *embedded in the snow. | Near the top we saw two crows, with yellow beaks and claws.*

§ 14. On the Summit.

At the top, when we wanted to write and eat, we found
S that *the ink in my pocket ink-bottle was frozen, and so was some*
* *meat that Balmat had in his bag.* | We planted a bâton in the snow, with a handkerchief tied to it, which was seen from

[119] De Saussure records that this was an observation of Paccard's (Dübi, p. 94).

[120] This might seem to be borne out by the double track marked on the highest part of von Gersdorf's sketch of the route he saw them take to the summit (p. 148). But since von Gersdorf speaks of the descent as shown by the *line* on the diagram, it is perhaps more likely that these two tracks were those of the ascent (dotted—von Gersdorf notes that they kept to the left) and the descent respectively.

[121] This makes 38 mins. from the Petits Rochers Rouges to the top (750 ft.)—splendid time for two tired climbers who had started, 14 hrs. before, from the Montagne de la Côte, which is 1500 ft. lower than the now usual base on the Grands Mulets, and is separated from it by hours of difficult glacier work. For those starting from the Grands Mulets Whymper allows 50 mins. as normal time from the Rochers Rouges to the summit, and de Saussure's party, starting from the Grand Plateau (2870 ft. higher than the Grands Mulets), took 1 hr. 43 mins. for the same portion of the ascent. As a curiosity I may add that Captain Farrar told me he once slept in the Rochers Rouges cabane, and in the morning went up to the top in 20 mins.!

[121a] These 'hailstones' are an appearance due to the granulation of the névé. Freshfield remarks (p. 7) that Leonardo da Vinci speaks of finding in July (probably in the Monte Rosa region) 'huge masses of ice formed by layers of hailstones.' This granular structure is now recognised as one of the chief factors in the explanation of the phenomena of glaciers.

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Chamonix.[122] In spite of the cold, *the summit snow was not* S
consolidated, and it was easy to plant the barometer stand *as*
deeply as was necessary. | *I noted down the readings of the* B
barometer and the thermometer. The latter showed 6° R. below
zero. | *The barometer reading was 14 in. 9.1*$\frac{8}{16}$. *The corre-* La
sponding figures at Chamonix were 12° R. and 25 in. 0.0$\frac{9}{16}$. *Three*
different modes of calculation based on these data and carried out
by various members of the Academy of Sciences *of Turin, give*
2702, 2711 and 2720 toises respectively for the height of Mont
Blanc.[123] *If therefore my observed reading was accurate, it seems*
that the height of Mont Blanc is something over 2700 toises, say
2710 toises as the average [= 5281m. = ca. 17,300 ft.]. This is
considerably more than *the previous measurements, based on*
trigonometrical observations—de Luc found 2391 and Shuckburgh
2451 toises [= 4777m. = 15,670 ft.]. Although *there are reasons,* D
as I have explained above (§ 7), *for thinking that these figures may*
be too low, it is also possible that my barometer may have got
out of order during our laborious ascent. *I had taken the pre-*
caution to mark the levels of the mercury with a file on the glass
tube, and I hope to be able to verify or correct my reading by
subsequent observations.[123]

[122] This is definitely stated by Professor Pictet in a short account communicated to the *Nouvelles de la République des Lettres* of September 6, 1786. Balmat's certificate says 'he (Paccard) *left* a mark there' (*sc.* on the top). It is not clear exactly what this means, as, of course, they could not have spared one of their bâtons, except for the half-hour of their stay.

[123] These figures are contained in a communication by Paccard (dated June 16, 1787) to the *Journal de Lausanne*, where it appeared on August 4. If we calculate the height by the accepted modern formula (see note 43), we get 5218 m. = 2677 toises = 17,120 ft. It is pretty clear that the figures were not made public earlier (as Coxe noted, Dübi, p. 132), because Paccard suspected an error, which obviously there must have been. On August 14, 1787, however (as related in his diary, see Dübi, p. 269), Paccard took his new 'English barometer' to the top of the Montagne de la Côte, and found the reading to be 21 ins. 0 lines 3 tenths (*cf.* note 48). The file marks on the barometer he had taken to the top showed that the mercury fell 5 ins. 2 lines 0 tenths on the ascent from the Montagne de la Côte, which would give 15 ins. 10 lines 3 tenths as the reading on the summit. This has to be increased by 3 lines, the amount by which the mercury had risen in the container. Thus the final corrected reading for the summit would be 16 ins. 1 line 3 tenths.

This is all very ingenious, and is indeed the best that could be done to correct the original erroneous reading (short of taking a barometer to the top again), but of course it could not give more than an interesting approximation to a correct value, since—to mention one obvious reason only—the barometric height on the Montagne de la Côte on August 14, 1787, would probably not be the same as on August 8, 1786. The best way to use Paccard's figures is to deduce from them the elevation of the summit above the Montagne de la Côte, which comes out as 2150 m. Since the top of the Montagne de la Côte is 2588 m. above sea level, this gives as the height of Mont Blanc 4738 m. = 15,545 ft.—about 230 ft. too low. In the circumstances this is not at all a bad result. Many modern and more ambitious barometric—and even trigonometric—determinations of heights show larger errors than this.

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In any case Mont Blanc rises far above all neighbouring peaks, which appeared to us dwarfed by their mighty monarch.
Lβ *This great height is due I believe to the fact that the snowy summit is borne up by two converging granite ridges* that run far up beneath it. I took some compass bearings—which seemed to
S show that *the magnetic variation was different from the normal*—and also made some observations on the blueness of the sky by the method of M. de Saussure's cyanometer.[124]

The distant view was unfortunately not clear, as vaporous

It must be added that Paccard's corrected reading is almost identical with that resulting from de Saussure's careful and repeated observations on August 2, 1787, viz. 16 ins. 1 line 0 tenth, which Paccard quotes in his diary on the authority of Bourrit ('Bourrit disant,' Dübi, p. 268). We can hardly doubt that the ingenious correction (made only a few days after de Saussure's observations) of Paccard's original measurement was, if not designed to bring out the same figures, at least inspired by his knowledge of de Saussure's readings. De Saussure's results, as given in *Voyages*, tome iv. § 2003, are collected in the following table for comparison:

Readings on Mont Blanc at	Compared with simultaneous readings at	Height calculated by de Saussure		Height calculated by modern formula.
		In toises.	Equivalent in metres.	
Noon . .	Geneva	2478	4830	4842 metres
,, . .	Chamonix	2471	4816	
2 P.M. . .	Geneva	2482	4837	
,, . .	Chamonix	2489	4851	
Mean . . .		2480	4833·5 m. = 15,858 ft.	4845·5 metres = 15,897 ft.

De Saussure tells us that his calculations were made according to the method of Trembley. He adds that de Luc's method gives a mean of 2418 toises, and Shuckburgh's 2475 toises. Paccard's three results (quoted in text of § 14) were obtained by the methods of Magellan, de Lalande, and de Luc respectively. Finally, note that the accepted height according to the French survey is 4810 m. = 15,781 ft., and according to the Italian Survey (confirmed by Vallot) 4807 m. = 15,771 ft., so that de Saussure's mean result by the accepted modern formula is about 120 ft. above the true value. De Saussure himself adopted (somewhat arbitrarily) as his final result the mean of 5 means (viz. 2480, 2418, 2475 toises as above, together with Shuckburgh's trigonometrical determination of 2450 toises and a 'mixed measurement' by Pictet of 2426 toises) giving 2450 toises = 4775 m. = 15,666 ft. (about 110 ft. too low).

[124] The sheet of paper used by Paccard for this purpose was afterwards given by his son Ambroise to Lord Minto, and is now framed in the library of the Alpine Club. The sheet is ruled into twenty parallel strips, which are roughly painted blue. The colours are still fresh and well graduated, from an almost opaque indigo to the palest and most transparent blue. Unfortunately there is no record of the actual observations. Next year de Saussure, with a similar but more elaborately made scale of sixteen graduations, found that while at Geneva the sky at noon appeared to be of tint 7, and at Chamonix 5–6, on the top of Mont Blanc the colour was 1–2, a 'bleu du roi.'

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Photo. G. P. Abraham.

View from summit of MONT BLANC towards N.E.

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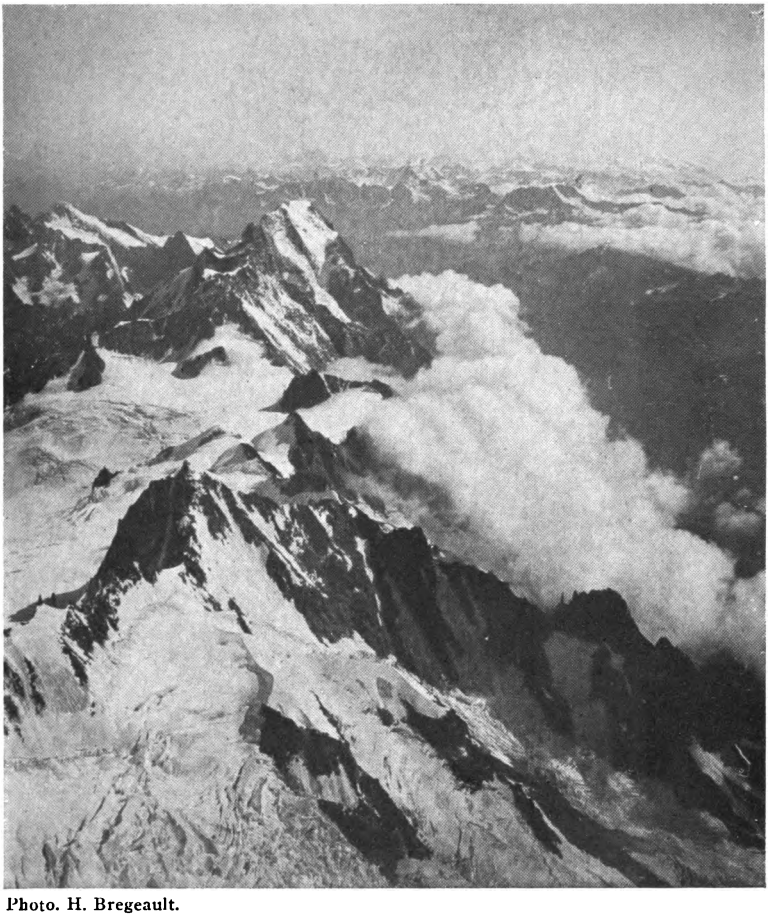

Photo. H. Bregeault.

View from summit of MONT BLANC de COURMAYEUR towards S.E.

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clouds had by now clustered round the horizon. | But *we saw*[125] * *the whole of Savoy at our feet, as if enclosed between the course of the Rhône and that of the chain of the Alps.*[126] *The course of the Rhône resembles nothing more closely than a C which embraces Savoy on the N.W., and the course of the chain of the Alps represents very well a 7 which separates it from the valley of Aosta and from Piedmont. The districts which are nearest to the central chain of the Alps are the most mountainous; they are studded with lesser peaks composed of the secondary strata that once covered the globe, of which only strips remain between the depressions partially hollowed out by the rivers running from the central chain. The largest level space to be seen was in the district of Geneva.* The whole scene was lit up by the slanting rays of the sun—now nearing the horizon—with an almost unearthly splendour, which was enhanced by the long, deep shadows cast by every lofty peak and ridge.

We could not stand still long to admire this, by reason of the S cold, *and we had to keep moving.* (In fact, we were insufficiently clothed for the cold we had to face,[127] but we could not have carried much more without sacrificing at least the barometer which I was so anxious to take to the top.) *It was easy to go some way down the gentle slope on the Val d'Aosta side towards*

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[125] This description of the view from the top (from 'But we saw . . .') is taken from a *Notice Historico-Topographique de la Savoie*' (published in Chambéry by Jean Lullin at the end of 1787 or early in 1788), where it is followed by the reference 'Voyez le Premier Voyage fait à la Cime de la plus haute Montagne de l'ancien Continent par M. le Docteur Paccard.' This note is probably the source of the references to Paccard's narrative made by Grillet (1807), Leschevin (1812), and Quérard (1836). The passage was discovered by Coolidge and communicated by him to Mr. Montagnier, who published it in *A.J.* **26**, 49, *q.v.* Montagnier remarks that the only description of the view from the top published before 1788 is de Saussure's (Whymper, pp. 33, 34; Freshfield, p. 232), which has nothing like this, and he considers that the passage emanates from Paccard, either 'communicated' by him to Lullin's work, or quoted from his narrative, if that was ever really composed. Modern maps and photographs show that the description is remarkably apt. It is, however, very unlikely that it could have been invented in 1788 by anyone who had not seen the view. It should be remembered also that Paccard was interested in geology, and records in his diary several observations bearing on the relations between primary and secondary strata. I entirely agree with Montagnier in ascribing the passage to Paccard, and therefore print it in italics.

[126] By the 'central chain of the Alps' is evidently meant the Mont Blanc range, as is plain from the context, and from the fact that the *distant* view was obscured by clouds. The shaft of the 7 no doubt means the main axis of the Mont Blanc group running to the Grandes Jorasses, and the cross piece is the ridge of the Aiguille Verte, or of the Aiguilles d'Argentière and du Chardonnet, or both ridges seen as one in the slanting light from the W.

[127] Bourrit's letter to Bailly, of the Royal Academy of Sciences at Paris, November 3, 1786 (Dübi, p. 69).

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some rocks which rise in a sharp crest,[128] *where I looked for a possible sleeping place, but could see none of any use to afford shelter from the wind.*[129] It was necessary therefore to start downwards as quickly as we could.

§ 15. The Descent.

v.G. So at 2 minutes to 7—just before sunset[130]—we left the summit, and ran down in 6 minutes to the Petits Rochers Rouges.[131] On the steep slope from here down to the Grand Plateau we had of course to go much more cautiously, taking every possible care not to slip—for in such a case neither of us could have helped the other—and following the route marked out by the little holes we had made with our bâtons.

B * *Here, and throughout the descent, we took turns in looking out for the track.* The night began to close in when we got over the big crevasse near the bottom of the slope, and fairly caught us

v.G. when we had crossed the Grand Plateau.[132] | Fortunately it was a bright moonlight night, otherwise we should have been in the gravest danger, and should hardly have escaped with

B our lives.[133] | As it was *we were able to descend pretty rapidly,* and to glissade some of the slopes. In the parts of the glacier where the crevasses had caused us so much trouble and waste of time in the morning, the snow bridges were now firm, and as we were able to pick out our previous tracks, we got through the difficulties more quickly than might have been expected.

v.G. Unfortunately, however, my barometer got broken.[134]

S At last, *a little while before midnight, we got off the glacier*

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[128] These rocks are probably those of the Mont Blanc de Courmayeur. They are 300 or 400 ft. below the top (Whymper, p. 150) and, as he says (p. 137), can be visited 'in a short hour from the summit.' Paccard, however, could have had no time for this, but it is easy for anyone on the top to see that the rocks are unsuitable for a bivouac.

[129] This is surely a remarkable total of work and observation for 35 mins.' stay on a summit, reached for the first time, of 15,800 ft., in a freezing wind, just before sunset, by a climber who had been 14½ hrs. on the way, and had still to face a long descent which must stretch far into the night! Compare the difficulties experienced in making observations in much less trying circumstances by de Saussure, Tyndall, and others.

[130] My friend, Mr. H. F. Brand, has calculated for me that the sun would have set at eight minutes past seven, in a direction 23° N. of W., but, as the horizon is not clear in that direction, the sun would *seem* to set a little earlier.

[131] Von Gersdorf (see note 17). By 'ran' ('laufend') he may have meant 'glissaded,' but it is safer to translate literally.

[132] From Dumas—no doubt an authentic memory of Balmat's.

[133] Von Gersdorf (see note 17). This is noted in most of the early references to the ascent.

[134] Von Gersdorf (see note 17).

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on to terra firma at *the top of the Montagne de la Côte,*[135] *and here we stayed* in our old shelter *till dawn.*[136] *I had been wearing leather gloves during the day, and,* as I have already mentioned, on the last part of the ascent, where it was so bitterly cold, *Balmat had lent me one of his fur gloves in exchange for one of mine. We now found that each of us had the hand in the leather glove frozen; mine was black—the leather glove having got wet through (from my leaning on the ice) and then frozen—and Balmat's was white. Both were cured by rubbing with snow, but my finger tips remained numb for weeks afterwards.* We ate and drank a little, * wrapped ourselves up in our blanket, lay down pressed against each other as closely as possible, and *went to sleep.* B

Next morning at dawn I was nearly blind. It was strange S *that this came on so severely after the night's rest, for we had felt no great inconvenience from the glare of the sun on the snow on the previous day,* though *we had noticed that fresh snow is far more trying to the eyes than the old. I could not see my way, and Balmat had to lead me* by the hand *down to the Priory,* where we arrived at 8 A.M. We went straight to bed, *suffering* badly *from sunburn.* Our lips were swollen, our faces scorched and blistered, and our eyes inflamed and red. My eyes and fingers did not recover for a long time. But all this was nothing, compared with the satisfaction of having at last achieved our purpose, of having overcome so many obstacles, and of *feeling* * *ourselves the Conquerors of Mont Blanc—the first mortals to set foot on the summit* which, surrounded by a retinue of magnificent peaks, towers far above them all as *the loftiest mountain in our continent. | Our ascent had been like a journey to another,* * *heavenly world, and the memory of it will remain as the most striking experience of my life.*[137]

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[135] Here again one cannot but admire the successful accomplishment of the descent, which speaks volumes for the steadiness and endurance of both climbers. How many of us would care to descend, *without rope or ice-axe,* and after sunset, a steep and hard-frozen snow-slope at a height of 14,000–15,000 ft., a slope which T. S. Kennedy, with Johann Fischer and J. A. Carrel—a strong, fully equipped, and determined party—declined to attempt in the middle of the day? (note 76). Or, again, to come down, still without rope or axe, from the Grand Plateau across the 'Jonction,' with only the deceptive light of the moon to guide our steps amongst the threatening séracs and crevasses?

[136] Dübi insists (pp. 51, 55) that they did not make any long halt, but were coming down all night. But de Saussure's report of Paccard's account (not known to Dübi) leaves no doubt that they did stop for several hours, as here stated. The details of their bivouac are from Dumas.

[137] This is what Paccard in 1802 told Dorthesen and Forneret, 'who honoured me with their visits as author of the first ascent of Mont Blanc,' that they would find the ascent to be, and therefore doubtless expresses his own feelings (Dübi, p. 144). The previous sentence is from Paccard's Prospectus.

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Postscript.

v.G. In the afternoon of the same day (Wednesday), while still in bed, I had the pleasure of a visit from Monsieur le Baron A. T. de Gersdorf and Monsieur C. A. de Meyer. I got up and saw them several times, on one of which Balmat was present. These two gentlemen, in the course of a tour in Switzerland, had passed through Geneva, where they had met M. Bourrit and received from him a MS. itinerary for a visit to Chamonix. They arrived here on Sat. Aug. 5th, and made excursions to the Col de Balme and the Montenvers. On Tuesday morning they went to the Glacier des Bossons, and in the afternoon heard that Balmat and I had started overnight for the Montagne de la Côte, and had been seen that morning ascending Mt. Blanc.[138] They joined in looking out for us with telescopes, sighted us about 5 P.M., and sketched our position. Then they went up to Monsieur Bourrit's chalet, which is higher up on the north side of the valley and commands a better view of Mt. Blanc, and from there they watched the rest of our ascent (making another sketch), and the first part of our descent. Next morning they went up to Planpraz, and thence were able to see our tracks in the recently fallen snow for most of the way from the Grands Mulets to the far side of the Grand Plateau. Mons. de Gersdorf made a sketch of this part of the mountain and of our track, which he showed me that afternoon, and of which he was kind enough afterwards to give me a copy for my narrative. I have been glad to quote some of the notes M. de Gersdorf made and repeated to me in the course of our conversations.

On Thursday my eyes, face and fingers were so painful that I had to stay in bed, but I was able to see M. de Gersdorf once more before he returned to Geneva, where I believe he related our adventures to Mons. de Saussure and others. That same day Balmat had the sad task of assisting at the
B burial of his little daughter, and *Mons. de Gersdorf gave me a new crown* for him, *which I handed over to him the same day together with his pay* for the days he had been with me. Later he received the reward which Mons. de Saussure had offered, and also, through the good offices of Mons. Bourrit, a substantial gratuity from the King of Sardinia. He was thus able presently to build himself a new house in les Pélerins.

Next week, on Friday August 18th, I went up to the

[138] The preceding and following details are from von Gersdorf's diary (Dübi, p. 46).

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Montagne de la Côte with my brother (the lawyer) and a guide, and next day we prospected a new route which I hoped might avoid the great difficulties Balmat and I had experienced in crossing the glacier between the top of the Montagne de la Côte and the Grands Mulets rocks. I thought it might be easier to cross the glacier more to the left, towards the foot of the Aiguille du Midi. But the attempt was not successful, and we returned to Chamonix without effecting our purpose.[139]

Meanwhile Mons. de Saussure had arrived from Geneva on the 19th, and was assembling his caravan for the ascent of Mt. Blanc. My brother and I arranged with him to take readings of the barometer and thermometer simultaneously with those he hoped to make on the mountain.[139] He started on the afternoon of Sunday Aug. 20th with his servant and 16 guides. Next day the weather changed and his guides advised him to return.

On Tuesday Aug. 22nd my father invited Mons. de Saussure to dine with us, and I gave him an account of my ascent on Aug. 8th. *As a result of* the discussion of *our experiences and observations, the following points emerged as worth attention.* S

(a) *The best time for an ascent would be early in the summer, say in June, when the days are long, the crevasses are choked, and the winter snow is firmer than that which falls in summer.*

(b) *A ladder would be useful to save time in passing the crevasses, especially between the Montagne de la Côte and the Grands Mulets.*

(c) *Special precautions should be taken against sunburn and snow-blindness, to avoid the evil consequences from which Balmat and I had suffered so much.*

(d) *The whole climb from the Montagne de la Côte took us 14½ hours. To reach the top early enough to make a complete series of observations such as Mons. de Saussure had in mind, it would be necessary to sleep at the Grands Mulets rocks, or even higher, e.g. on the Grand Plateau.*[140] *In the latter case, however, it would be best, in order to avoid the avalanches which sometimes fall from the ice-cliffs under the summit, not to bivouac too far across the Grand Plateau, but to stay on the lower part of it.*[141]

Monsieur de Saussure remained ten days longer at Chamonix,

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[139] See Freshfield, p. 213.

[140] See *Ibid.* pp. 214, 215. Most of these suggestions were adopted by de Saussure and proved very useful.

[141] De Saussure relates that he took this precaution, and Whymper (p. 31) wonders how he knew of the danger. It is, I think, clear that it was Paccard who told him of it. He had observed this from the Brévent (see § 11) and perhaps confirmed it on his own ascent.

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but the weather continued broken, and he reluctantly gave up hope of making any further attempt that season. I hope he may have better fortune next summer (1787).

La Towards the end of Sept. 1786 *Mons. Bourrit wrote a letter, which has attained the widest publicity, in which,* to my great surprise, *he gave an utterly distorted version of my ascent. I must deal with this,* even at the risk of some repetition. He admits that his account is based solely upon the story told him by
* Balmat, but in view of *the animus shown in his letter,*[142] and of his well-known inflated style,[143] there can be little doubt that he deliberately exaggerated the lies which Balmat poured
La into his too credulous ears. **In the first place,** *although Mons. Bourrit speaks at length of his own and other fruitless attempts, he says not a word about my extensive reconnaissances (one of which obviously prompted his own attack on the Aiguille du Goûter), or of the fact that I alone devised the route which was the key to our success.* On the contrary—he makes out that Balmat, when abandoned by the other guides on June 8th, had slept out 'higher than the Dôme du Goûter' (!), and next morning had got so near the summit as to observe what he thought would be an easy way up, and then had persuaded me to accept his guidance by this route. In other words Balmat was the initiator (the 'true cause') of the whole enterprise.
D This is all pure invention. *Balmat had followed his companions' tracks down from the Dôme du Goûter,* and his sleeping place was far down towards the Glacier des Bossons. *Next morning his clothes were frozen,* and he was certainly in no case to explore the higher glaciers. As a matter of fact he very sensibly got down to Chamonix as soon as he could, arriving there at 8 A.M.
B *Several weeks later he offered his services to me when he heard that I was intending to continue my previous attempts, and*
La *I accepted them (in the capacity of porter, not of guide) because my usual guide was away.* Even then he had no idea of the route I had planned—and which in fact we followed—until I explained it to him.

In the second place, Mons. Bourrit suggests that on the actual climb Balmat was the hero without whose help and encouragement I should have failed ignominiously, that he reached the top first and returned to help me up the final

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[142] Writing to von Gersdorf, Paccard calls Bourrit's pamphlet 'cette si mauvaise et si méchante lettre' (Dübi, p. 118).

[143] Among many verdicts on Bourrit's style, it may suffice to quote that of Forbes: 'Bourrit conveys the simplest facts through a medium of unmixed bombast' (*A.J.* **19**, 345).

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slopes, and that to his skill and endurance was entirely due the successful accomplishment of our dangerous moonlight descent. This also is a tissue of lies. *Balmat was indeed very useful to me*—as I have been careful to explain—*but we shared the labour, it was I who insisted on proceeding when he wanted to turn back, I led the way at the critical part of the climb (and from time to time before and after that), we reached the top together (as* Mons. de Gersdorf saw and undoubtedly told Mons. Bourrit), *and we took turns in finding the way down.* Lα B

Finally, Mons. Bourrit draws an offensive contrast between the well-to-do amateur climber—designing to make profit by obtaining subscriptions for the publication of an account of his exploits, and giving himself out as the Conqueror of Mont Blanc—on the one hand, and on the other the needy peasant who has received no recompense for the labours that have endangered his health, to whose deserts his employer is so meanly indifferent as to have shocked Mons. de Gersdorf, and whose merits remained unrecognised until Mons. Bourrit proclaimed them. The true facts are these :—

(*a*) *On the day after our return I paid Balmat his proper wage, and handed over to him a new crown which Mons. de Gersdorf had given me for him.* He will also doubtless receive—or has already received—Mons. de Saussure's promised reward (which in spite of Mons. Bourrit's insinuation I of course have never thought of claiming) as well as the money collected for him in Germany by Mons. de Gersdorf. Of course *I found the provisions* for both of us. B B

(*b*) *I have a letter from Mons. de Gersdorf* [144] *repudiating the suggestion that he regarded me as ungrateful to Balmat,* and explaining that he would gladly have done for me what he was doing for Balmat had it appeared necessary or suitable. *

(*c*) It is true that *I have issued a prospectus asking those interested to subscribe for copies of my account of the ascent. In this prospectus I have spoken* not of the Conqueror [145] but *of the Conquerors of Mt. Blanc,* and in my narrative I have done justice to Balmat's strength, ability and steadiness. *

Mons. Bourrit has not removed the damaging effect of his misrepresentations by the apologetic postscript [146] which on

[144] Dübi, p. 119.

[145] Though de Saussure *does* speak of him as 'the conqueror of Mont Blanc' (see p. 144).

[146] This postscript (to be read after the third paragraph on p. 612 of *A.J.* **25**, 612) runs as follows :

'P.S. I think that M. Paccard will not be offended at the publication of this letter. I have been asked so many questions about this journey that, not

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second thoughts he has added to his letter. I can only suppose
La that in his eager desire to ascend Mt. Blanc *he is jealous of the success* of his old acquaintance and more youthful rival, and *has snatched at the opportunity* afforded by Balmat's inventions *to disparage the amateur's achievements by attributing almost all the credit*—both of discovery and of execution—*to the so-called guide.*[147] As to Balmat, he, with his peasant's grasping propensities and petty cunning,[148] was no doubt glad to seize

knowing how to reply to them, I have found myself obliged to tell what I had learned from Balmat himself concerning the interesting journey they made. It is doubtless a long way from this letter to the description which M. Paccard gives the public reason to hope for. His knowledge of mineralogy and botany, joined to the glory of having been the first to arrive on a summit so often attacked in vain, assures for his work all the success it deserves, and for his courage the praises that are due to it and the glory which I envy him.'

It is now known that this postscript was added to the later copies of Bourrit's pamphlet in deference to the advice of de Saussure. On August 11 Bourrit had written to de Saussure from Sallanches, insinuating that Paccard might not have reached the actual summit. Finding this argument untenable, he wrote his pamphlet with the double object of asserting his own claim to be the real explorer of Mont Blanc, and of disparaging his rival by giving all the credit to Balmat. This pamphlet was brought to de Saussure's notice shortly after his return to Geneva, and thus just after he had heard the accounts of von Gersdorf and of Paccard himself. He at once wrote to remonstrate with Bourrit. The latter's rejoinder exhibits a deplorable mixture of obsequiousness and self-assertion, but he found it expedient to add the postscript, with its disingenuous apology for the terms in which Paccard had been mentioned. Here is de Saussure's acknowledgment, dated October 19 (1786):

'I thank you a thousand times for the fresh copies of your letter that you have sent me. The postscript you have added will throw some balm on the wound which the body of the letter cannot fail to inflict on the Doctor, and if it is at my instigation that you have written it, I am glad that I wrote to you, and thank you for your compliance. The description of the Doctor's journey, whatever form it may take, will be read from one end of Europe to the other, and I should have been sorry to have seen in it what must have caused you pain. No doubt you would have replied, but you would have suffered annoyance, and that is what I wished to avoid.' (For all this, see Freshfield, pp. 217, 218.)

The whole incident, like that of the Col du Géant (see note 56), shows how utterly unreliable Bourrit's account is, and as this account is the germ from which the whole Balmat legend sprang, the legend itself is discredited from the outset. In my reconstruction of Paccard's postscript, following Montagnier's opinion that 'if [Paccard's account] was ever printed, it would assuredly have contained some reference to the charges made by Bourrit' (*A.J.* **26**, 38), I have made Paccard say exactly what de Saussure anticipated. Actually Paccard's reply was made through the *Journal de Lausanne*, and was so conclusive that neither Bourrit nor Balmat attempted publicly to answer it.

[147] See, *e.g.*, notes 56, 146.

[148] The traditions of de Saussure's family about Balmat fully bear this out. They are expressed as follows in a note, which was probably written by Monsieur Henri de Saussure, and is attached to a copy (preserved in the family archives) of some polemical poems brought forth by the first ascents of Mont Blanc (see Dübi, p. 98): 'Balmat was never anything more than a workman ["ouvrier," as Paccard also called him; see note 99] in the pay of de Saussure. It was solely the lure of a considerable sum promised by the latter that in the end brought Balmat to the top of Mont Blanc. If he finally joined Dr. Paccard,

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the chance of grossly overstating his share in our enterprise, in order to impress a possible employer, who might also be of service to him in securing Mons. de Saussure's promised reward, and in other influential quarters such as at the Court of Turin and with Mons. de Gersdorf.

As I could not let such misrepresentations pass unnoticed, I obtained from Balmat on October 18th (1786) a properly signed and witnessed certificate, stating the main facts as I have related them, and contradicting in every point the lies to which Mons. Bourrit has given currency. The account I have given above is the plain truth, and is, I believe, beyond controversy. In any case I hold Balmat's certificate, which I shall publish if I find it necessary. I am very sure that neither Balmat nor Mons. Bourrit will venture publicly to challenge its accuracy.

[M. G. PACCARD.]

CONCLUSION.

And they never did! Considering the bitter tone of Bourrit's letter to the *Journal de Lausanne*, in which he challenged the production of the Balmat certificates, it is obvious that he would have been delighted to spike Paccard's guns by impugning the genuineness of the certificates, if he had been in a position to do so. But, in 1792, he had a quarrel with v. Gersdorf and with Balmat, by reason of his delay in handing over to the latter the sums collected by v. Gersdorf[149] for his benefit. This perhaps altered his views as to the respective merits of Balmat and Paccard, for in his 'Descriptions des Cols ou Passages des Alpes' (1803)[150] he says, after mentioning the moneys he obtained for Balmat from the King of Sardinia, and from M. de Saussure (*sic*), 'it is nevertheless true that Dr. Paccard rightly shared ("a dû partager") the glory of this Chamouiard, if indeed he was not, as we have reasons to believe, the prime cause ("la première cause") of it.' The truth at last!

Balmat, however, made an effort to minimize the effect of his certificates. On the afternoon of Monday, July 9, 1787—a wet and miserable day—he reached Chamonix with de Saussure's party for the latter's projected ascent of Mont Blanc. Perhaps he felt himself

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it was because the latter claimed nothing for his share. In Balmat is found the most pronounced type of the Savoyard who thinks of nothing but gain. Balmat the explorer, eager to make discoveries, striving for glory, as some writers [*e.g.* Durier] have sought to depict him, is a mythical and purely imaginary figure.' Freshfield (p. 240) adds that this agrees exactly with what Monsieur Henri de Saussure told him personally in 1891.

[149] See Dübi, pp. 122–125.

[150] See Dübi, p. 146. Bourrit adds that visitors can buy minerals from 'Balmat dit le Mont Blanc,' but does not name him in the list he gives of the (21) guides of the valley.

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fortified by de Saussure's patronage, and that same evening there was an unseemly brawl in the streets of Chamonix, between Balmat and some of his relatives on the one side, and François and other Paccards on the other, provoked by Balmat's charges of fraud against Dr. Paccard. He seems to have asserted (*a*) that the Doctor had asked him to supply a certificate that he had really been on the summit of Mont Blanc, under the pretext that Bourrit was representing him (Paccard) as an impostor or thief in claiming to have climbed the mountain (Bourrit *had* tried to dispute the ascent; see note 146); (*b*) that on Balmat's declining to sign the prepared document, Paccard had agreed to modify it, and got him to sign a blank sheet, which he had then filled up with the statement to which Balmat would not agree; (*c*) and had published this at Lausanne. The parties were drinking at Couteran's wine-shop near the bridge at Chamonix, and Dr. Paccard came upon the scene. Balmat said 'Isn't it true that you made me sign it?' Paccard lost his temper, struck Balmat across the face with his umbrella, and knocked him down. De Saussure did his best to smooth over the quarrel, which seems to have gone no further.[151] Montagnier is disposed to think there may have been something in Balmat's contention, but it is difficult to believe (I agree with Freshfield and Dübi in this) that the certificates, witnessed by two Chamoniards of repute, can have been anything but genuine. Also, as suggested above, Bourrit would certainly have rejoiced to make play with such a scandal, if he had any reason to believe he could maintain its reality.

On Tuesday, July 10 (the day after the brawl), Dr. Paccard left Chamonix, accompanied by Lombard, 'le grand Jorasse,' for a trip to Courmayeur. De Saussure called on Secretary Paccard on the Saturday. He writes in his diary: 'I think that his son, the Doctor, the conqueror of Mont Blanc, does not want to see me before my expedition.' During the doctor's absence his father was unfortunately drowned. Although an old man (about seventy-five), he had insisted on starting alone in horrible weather (Tuesday, July 24), and in spite of his daughter's protests, to meet the Intendant of Faucigny at Servoz. He missed his footing while crossing a plank bridge over a torrent, near Les Houches, which was in flood. Bourrit, with François Paccard, hurried to the spot from Chamonix—followed later by the lawyer son—and found his old friend still breathing, but he soon passed away. Bourrit and his

[151] This is about as much as can be made out from some disjointed and almost illegible memoranda of H. A. Gosse (Dübi, p. 87), found amongst the papers that had barely escaped destruction by mice, and that included the unique copy of Paccard's prospectus (see Introduction). The date of the brawl is fixed and the fact confirmed by the diary of Bourrit's young son Charles, who had come to Chamonix with his father, almost on the heels of de Saussure. Writing on Tuesday July 10, he says: 'After breakfast we went for a walk with Balmat, who told us he had been knocked down on Monday by a blow ("soufflet") from Dr. Paccard' (G. M. (1), p. 36).

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son were present at the funeral on Thursday, July 26. 'The whole valley,' he says, 'lamented his loss, and with good reason, for he had rendered it great services.' De Saussure and Bourrit seem to have done what they could to show their sympathy with the daughter and son. The Doctor heard of the sad event on Thursday evening at les Contamines, and hurried home, but too late for the funeral. De Saussure called on him on Friday. 'Dr. Paccard does not seem greatly touched by his father's death. He had just as bad weather on the other side of the Alps as we have here. He took advantage, however, of the intervals of fine weather to observe the mountains of Val d'Aosta and the passes of Col Ferret and the Col du Bonhomme. He seems to have taken pains to go, whenever he could, higher and further than I have been.'[152] One gets the impression that a certain coolness had arisen between the two men. De Saussure apparently found Paccard unsympathetic in this matter, and perhaps, too, in his relations with Balmat, and, as Freshfield suggests,[153] he may also have been 'human enough to be at heart a little jealous of his precursor ("the conqueror of Mont Blanc"), and of the climbing powers of the younger man.' When de Saussure, a few days later, achieved his long desired ascent, Paccard obtained the details of his barometric readings only from Bourrit, although the year before he and his brother were to have assisted de Saussure by making the necessary comparison readings at Chamonix. The knowledge of de Saussure's figures perhaps prompted Paccard to take his new barometer to the top of the Montagne de la Côte on August 14, 1787, and make observations there with a view to correct his own erroneous reading of the previous year on Mont Blanc. (See note 123.) We hear nothing of any further intercourse between the professor and the village doctor. But the narrative of the explorations preceding his own ascent, which de Saussure published in vol. iv. of the 'Voyages' (§§ 1962–1965), seems somewhat less favourable to Paccard and more so to Balmat than his references to the subject in 1786, which are discussed in note 115.

During the occupation of Chamonix by the French (1792 to 1814) Dr. Paccard was *Juge de Paix* for seven years (with interruptions) from 1793, was Mayor of Chamonix in 1794, and married Marie-Angélique Balmat in 1796. He had a son, Michel Ambroise, who travelled with Lord Minto in 1830 (accompanying him up the Breithorn at Zermatt), told him of his father's claims to the chief share in the first ascent of Mont Blanc, and gave him the colour scale which his father had used on his great climb to measure the blueness of the sky. Dr. Paccard's salary as *Juge de Paix* remained partly unpaid, and in 1810 he applied for the arrears (1900 francs) to the Municipal Council, who, however, decided to take no action in the matter. Jacques Balmat was one of the councillors who signed this resolution![154]

[152] For the matter of this paragraph, see G. M. (1), pp. 4, 8, 9, 40, 41.
[153] See Freshfield, p. 223. [154] These details are from Dübi, pp. 150–151.

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We know nothing further of Dr. Paccard's life, except that many distinguished visitors to Chamonix paid their respects to him, and that he was consulted by most of those who climbed Mont Blanc, and frequently lent them scientific instruments (barometer, thermometer, electrometer, compass, prism, etc.), which they often broke or lost. He died on May 21, 1827, aged seventy. A copy of the certificate of his death was discovered by Whymper,[155] pasted on the flyleaf of the 'Régistre No. 10 des Ascensions au Mont Blanc.' There is no other record or memorial of his death or his burial-place.

What judgment is to be formed of the village doctor as a man and a mountaineer? Almost everything we know of him is favourable and to his credit. He was a man of culture and scientific attainments, of keen powers of observation and inference, interested in botany, geology and physics, and keeping himself surprisingly well provided with scientific instruments, which he used with knowledge and effect. His accounts of his own climbs are quite remarkably objective and straightforward, free from all exaggeration or boasting. They are worlds away from Bourrit's bombast, and in their scientific precision compare well even with de Saussure's writings, though, of course, they are on a much smaller scale, and show neither the power nor the sensibility of that master-mind. As a mountaineer, Paccard set before himself the greatest Alpine problem of his day, and brought to its solution a combination of enterprise, courage, sound judgment, endurance, steadiness and speed, which it seems to me was unparalleled among amateurs *or guides* up to his own time, and for many a long year afterwards.[156] Having solved his problem, he left the arena to his successors, in whose doings, however, he retained the liveliest interest, as his diary shows.

These favourable impressions are strongly confirmed by the portraits, especially the delightful one of him in his later years, which Matthews discovered and which is here reproduced. Every line of this portrait breathes high spirit, good breeding, intelligence, energy and decision—and perhaps also a certain hardness. To repeat the words of his great contemporary de Saussure, he was indeed 'a fine fellow, full of intelligence, good at botany, keen on climbing Mont Blanc,'[157] and as we look back over the years that have elapsed since

[155] Whymper, p. 27.

[156] In support of this judgment I would ask the reader to consider notes 61 (*f*), 89, 117, 121, 129, 135.

[157] See note 68. *Cf.* the verdict of de Saussure's grandson, Monsieur Henri de Saussure ('Les Explorateurs Genevois,' presidential opening address of the fifteenth International Conference of Alpine Clubs, 1879: see Dübi, p. 227; *A.J.* 19, 347). He brought to light various letters from Paccard to de Saussure (referred to above, see notes 37, 43) which prove that the Doctor was a man of scientific culture, with a good knowledge of physics and natural history, and that from 1783 on, stimulated by de Saussure's earliest writings, he had busied himself with the problem of ascending Mont Blanc and measuring its height. 'This modest and sympathetic character has been very unjustly relegated to the second rank behind the somewhat theatrical figure of his countryman

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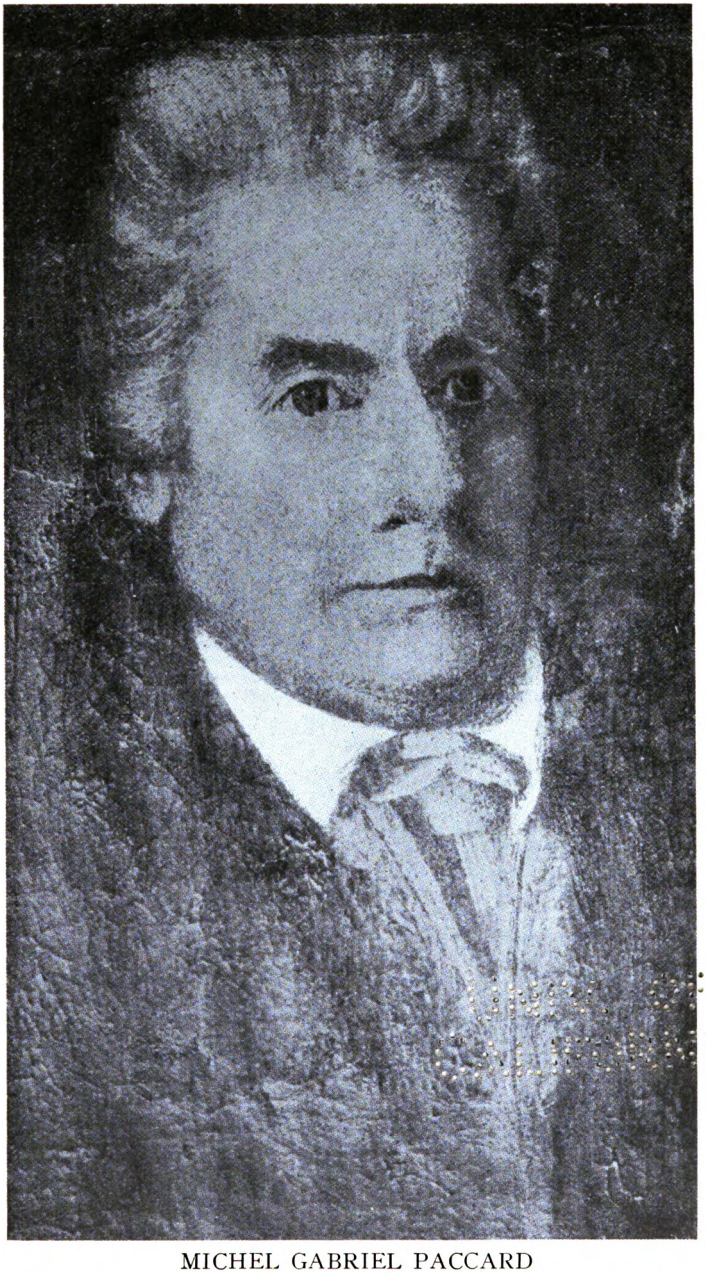

MICHEL GABRIEL PACCARD

from an old portrait in the possession of M. J. P. CACHAT, his grandson.

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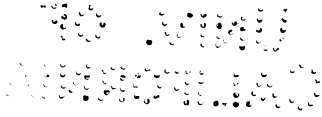

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his great achievement, we find ample reason to give him a very high place amongst the most capable and successful pioneers of modern mountaineering. If Chamonix is proud to be reckoned one of the chief homes of the mountaineering art, she would do well to remember with gratitude and honour that son of her own, whose well-earned fame has been so unjustly dimmed by the detraction of envious rivals and the chance caricature of the greatest of story-tellers,[158] but who in truth first found the way to the summit of her great mountain.

Note 17 *cont.—Von Gersdorf's Narrative.*

'Monsieur Michel-Gabriel Paccard, the doctor of Chamonix, has at length succeeded, together with Jacques Balmat, another inhabitant of that place, in reaching the summit of Mont Blanc, which, though frequently attempted, had never been climbed before. They left Chamonix soon after midday on August 7, and slept in a shelter-hut on top of the Montagne de la Côte, which lies between the glaciers of Taconnay and the Bossons, on the right of the latter. Starting again at daybreak on the 8th, they crossed the Sea of Ice [*sc.* the "Jonction"], [mounting] over steep ice and snow slopes, and went on—their tracks being visible from here—through rather soft fresh snow, and over many crevasses, some freshly covered, others open. Further up they climbed a steep snow slope (on which I discovered their footsteps next morning from Chamonix) between the big rocks on the left and the big depression [on the right] which has a rock visible in the middle of it. [This is no doubt the slope leading up to the Grand Plateau, which from Chamonix or Planpraz appears to rise between the Rochers Rouges and the Col du Dôme (with the Vallot rocks), though these really lie further back.] They were several times seen ascending [the mountain] by watchers with telescopes from Chamonix, and I myself discovered them shortly after 5 P.M. on the level ridge immediately above the rock-ridge *a*; they were advancing rapidly to the left on this level [course], and as they were in shade they were very [clearly] visible against the [sun-]lit [slopes of the] mountain. Soon they disappeared behind the upper slopes [lit. the uppermost (part of the) mountain] at *b*. I went up with several companions to Monsieur Bourrit's chalet, which lies further up on the N. side of the valley, and shows much more of the summit of Mont Blanc than is seen from the inn. From here the climbers were first seen again just below the larger of the rock-patches which are higher up [*sc.* the Petits Rochers Rouges], at *c*, which they must undoubtedly have reached by passing through a hollow. They halted for a few minutes amongst these rocks, and left them at 5.45. They rested for a moment after about every 100 steps, and changed leadership several times. One of them was always about 100 steps ahead. At 6.12 they passed two very small rocks that stick out of the snow [*sc.* the Petits Mulets], and going on again, bearing constantly to the left, they arrived on the actual summit at 6.23, as was clearly seen through telescopes by ourselves and a Russian officer, Herr von Lansky, together with many

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Balmat. Paccard was a mountaineer of great merit. It was not the attraction of a monetary reward which led his steps to the summit of Mont Blanc, but the generous aspirations of a man who understood the aims of science and pursued them without regard to self.' The testimony even of M. Carrier, Balmat's most ardent champion, is equally favourable to Paccard: 'M. Paccard was devoted to hazardous excursions of this kind (*sc.* attempts to climb Mont Blanc). He was a skilful doctor, and equally distinguished as a naturalist, and about this time (*sc.* 1786) was busying himself with various researches in natural history, chiefly in botany and geology' (Dübi, p. 211).

[158] 'Balmat was a child in the hands of the first of interviewers and the greatest of story-tellers' (Freshfield, *A.J.* **19**, 342).

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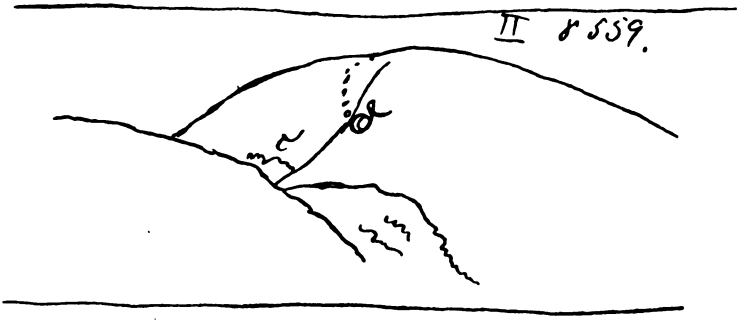
inhabitants of the place. We were all filled with joy and wonder [at the sight of their success].

'They at once disappeared behind the summit, but were soon seen again for about a minute. They did not appear again for some time, for the sharp frost (which Dr. Paccard found to be 6° R. below zero) obliged them continually to move around on all sides of the somewhat declivitous top. After about half an hour, *i.e.* at 6.57, they started back, and ran down, as shown by the line [on the diagram] to the lower [patch of] separate rocks at *c* [*sc.* the Petits Rochers Rouges], which they actually ["schon"] reached in 6 minutes. I did not see them beyond this, and I suspected that they had wanted to find a

bivouac place there in order to go up again early in the morning. But in fact the cold compelled them to continue their descent, and with the help of the bright moonlight—without which they must inevitably have perished—they came down all through the night without stopping to rest, and got safely back to Chamonix at 8 o'clock in the morning of August 9. They had had incredible difficulties to overcome on account of the frequent steepness of the way and the many crevasses in the snow and ice. But the weather had been extraordinarily fine, and the rarefied air on the top of this lofty mountain had caused them no very unpleasant sensations. On the other hand, they suffered greatly



from the dazzling snow and the keenness of the air. Their faces and hands were blistered, and both of them had dreadfully red eyes, which were very painful and constantly running, and they could not bear the daylight.

'That same day (August 9) we went up to Planpraz, starting at 5.10 A.M., arriving at the Chalet at 12.45, and getting back at 2.37. [There must be some error in these times; probably we should read 7.45 for 12.45.] The Chalet is finely situated, facing S., and it was uncommonly warm and pleasant [there]. We spent the whole time sketching. On the snow-covered parts of Mont Blanc we saw the footsteps of Dr. Paccard and Jacques Balmat for the greatest part [of their way], but we could not discover how they got up the steep snow-

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slopes above the Sea of Ice [*sc.* the Grand Plateau]. As a souvenir of their route I made a drawing of the upper part of the mountain, on which the yellow line [the thick winding line on the reproduction] shows the climbers' tracks.

'In the afternoon we visited Dr. Paccard, who was in bed, but soon got up. I went in again alone several times, on one of which Jacques Balmat was

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present. Early next day I visited the Doctor again. He was obliged to keep to his bed, and was in much pain. [He told me that] the barometer which he had taken with him to the top of Mont Blanc was broken on the way back. He intends to print some [account] of his ascent. I must say I could wish, for the benefit of the public, that the Doctor, in addition to his robust frame, had a wider knowledge of Physics and Natural History. His chief subjects are Botany and Mineralogy, and even in the latter his knowledge is not great, as I observed yesterday on looking through his small and unimportant collection of minerals.'

Von Gersdorf also gave a certificate—at the request of Paccard's father—which runs as follows (it is in French, and was originally written in the first person singular, and was then corrected throughout to the plural, no doubt in order that von Meyer might sign it as well as von Gersdorf. See Dübi, pp. 52, 53):

'We, the undersigned, declare that being in the township of Chamonix in Faucigny in order to view the glaciers and other curiosities of the place, on August 8, 1786, we saw with our glasses that Monsieur Michel-Gabriel Paccard, Doctor of Medicine, of the said place, arrived with his guide Jacques Balmat on the summit of Mont Blanc at 6.23. We saw him walk about there, and they stayed on the said mountain 34 minutes. They began to descend at 6.57. We, together with several inhabitants of this township, saw the traces of their route in the snow, which we observed with our glasses. In witness whereof we have signed these presents at the request of the said Dr. Paccard at Chamonix on August 9, 1786.

'Adolph Traugott de Gersdorf de Meffersdorf.
'Charles André de Meyer de Meffersdorf.'

It is perhaps worth notice that the track marked on von Gersdorf's drawings might seem more consistent with a route by the *upper* than by the *lower* Ancien Passage. But Mr. Lloyd's print shows that the curving line of snow on top of the *lower* Ancien Passage is so much more prominent a feature in the view than the slope above it, that it is not surprising von Gersdorf neglects the latter in his sketches.

An interesting side-light on these events is to be found in an amusing letter by the Rev. Tho. Brand describing a visit to Chamonix in 1786 (*A.J.* 32, 77). 'Two or 3 days before our arrival a Dr. Packard and a young man of the name of Balma atchieved the long wish'd for adventure of gaining the highest summit of the Mont Blanc . . . the sun & snow together made all the skin peal off their faces & almost blinded them, & for the following days their sight was too weak to distinguish objects even at small distances & everything appear'd to them of a blood red. They spent two nights on the upper part of the Montagne de la Côte . . . They were seen by many people from Chamouni & other parts of the Valley with the common little telescope. The Baron de Hersdorff (or some such German name) saw them thro' a good achromatic glass so as to distinguish the identity of their persons.'

Note 115 *cont.—Paccard's Route or Balmat's?*

As this is one of the vital points of the whole Paccard-Balmat controversy, I would draw special attention to the statements in two letters written by de Saussure and his uncle *before* de Saussure had heard Paccard's own story, though he *may* have heard Balmat's account. On August 13, in a letter to J. P. Tairraz (Whymper, pp. 23, 24) de Saussure uses the following phrases: 'The happy result of Dr. Paccard's expedition.' . . . 'I have neither the youth nor the agility of the Doctor.' . . . 'This Jacques Balmat who made the journey with Monsieur Paccard.' On August 18, C. Bonnet, uncle of de Saussure, wrote as follows (Dübi, pp. 55, 56; Mathews, p. 97): 'On the 8th inst., a young Doctor of Savoy, accompanied by a single montagnard, had first the glory of attaining that summit.' . . . 'the new route which he has discovered' . . . 'the Doctor has thus reached 2426 toises above the

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Mediterranean.' . . . 'My nephew is preparing to follow the steps of the Doctor and to make more precise observations.' It is plain that de Saussure and his circle regarded Dr. Paccard as the initiator of the climb and the discoverer of the route, and 'this Jacques Balmat' as merely his assistant. Note also the reference to 'more precise observations,' showing that something was known thus early of Paccard's work on the summit.

The only evidence of any weight against this is de Saussure's later account (in which he may have been influenced by his further intercourse with Balmat and Bourrit, and by the coolness which seems to have arisen between himself and Paccard; see 'Conclusion,' p. 145) of Balmat's observations on June 9. (Even so, Durier reproaches de Saussure—of all men—with injustice to Balmat in describing him on that occasion, as Paccard also does, as chiefly on the lookout for crystals. This, of course, is exactly what he was doing, for he was a crystal-hunter by trade; *cf.* note 83 and *A.J.* **19**, 348.) It is particularly to be noticed, as Freshfield pointed out in 1899 (*A.J.* **19**, 344), that when de Saussure in his later narrative speaks of Balmat having discovered the only possible route, he proceeds to explain that this is the route 'that seemed the most natural, and had already been tried'—viz. that through the 'snow valley' (see §§ 1, 2, 3 and note 102)—but had then been abandoned in favour of the Goûter ridge on account of the supposed stagnation of the air in the 'snow valley.' That Balmat was in favour of the 'valley route' as against the 'ridge route' in consequence of his observations on June 8 may well be the case. Indeed, in his certificate he declares 'We believed we had seen on June 8 last that the route by the Montagne de la Côte (*sc.* the Bosses ridge, which they had reached *via* the Montagne de la Côte) was impossible.' (Incidentally note that it follows from this that Balmat thought—until Paccard told him his actual plan—that he was intending to try the Bosses ridge again.) But the crux was, how to get up the final slopes? This is what Paccard devised and always claimed, viz. the discovery of the (lower) Ancien Passage. What de Saussure says in no way invalidates this claim, against which there is, therefore, no evidence save Balmat's pretensions. Even apart from his certificate, it must surely be admitted that his story (*a*) is utterly improbable—who can believe in the four days' and nights' climbing and sleeping out? (*cf.* note 4); (*b*) bears all the marks of a frequently varied and gradually elaborated myth; (*c*) has been shattered by von Gersdorf's testimony as to one of its main elements, and *therefore deserves no credence on other points*; (*d*) was so obviously to his own interest in gaining credit with Bourrit and de Saussure as to be suspect on that ground alone. When to all this one adds the conclusive statements of the certificate, there is, in my judgment, not a shred of Balmat's claims left.

Gaillard and Montagnier, however, in spite of the latter's contemptuous dismissal (in 1912) of Dumas's narrative as a tissue of exaggerations and inventions, now accept most of Balmat's story, as told to Dumas, about the events of June 8 and the preceding days [G. M. (2), p. 83]: 'This is how, in our opinion, things must have happened. Jacques Balmat, who had spent the night of 6–7 June at the Grands Mulets, and that of 7–8 at the Bec de l'Oiseau [on the Montagne de la Côte] after making an attempt towards the Dôme du Goûter [Balmat's MS. asserts that he was *on* the Dôme du Goûter], was going down to Chamonix on the morning of the 8th when he met the three guides who were going up to sleep on the Montagne de la Côte. Balmat went home to change his stockings and gaiters and fetch some provisions, and started again at 11 o'clock in the evening of the 8th June to join the Carriers and F. Paccard [next morning, after walking up all night]. It was no doubt against their will that he joined their party [but Balmat's MS. contradicts this; *cf.* note 4]. Having reached the Dôme [du Goûter next day] they were joined by Pierre Balmat and Marie Couttet who had started from Pierre Ronde. The united parties went on as far as the Col du Dôme. Here Jacques Balmat alone tried to climb the Bosses ridge [probably only the Vallot rocks] alleging that he was going to look for crystals or actually doing so. Meanwhile a mist came up, and the guides made off. It was probably against his will that Balmat remained behind. However that may be, at 4 P.M. he descended to the Grand Plateau

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and ascended [*sc.* by the "Corridor"] to the Col de la Brenva, whence he saw the valley of Aosta. On coming down again, did he turn to the left and reach the foot of the Ancien Passage? It is possible. In any case it was probably in the crevasse which is found at this place (on the Grand Plateau, at the foot of the Ancien Passage) that he passed the night. Next morning he was back at Chamonix at 8 A.M. He had had no time to make any further exploration that day, as he states expressly in his MS. account, assigning as his reason that the mist remained on the top all the time. Moreover, can one imagine that after three successive bivouacs—the last spent in so cruel a fashion on the snows of the Grand Plateau—he could have wanted to do anything but get back home?'

As to this, (*a*) I invite the reader to disbelieve entirely Balmat's story of his three days' and nights' explorations, of which we hear nothing till forty years after the events (when Paccard was dead), and which reeks of egotistic invention (*cf.* note 4).

(*b*) Gaillard and Montagnier take Balmat up the 'Corridor'—which, as far as we know, no one *except Paccard* (see § 11) had even thought of till 1827—and they do not venture to suggest more than that Balmat *may* have turned up to the left after coming back down the Corridor, and have reached the foot of the Ancien Passage. There is not a scrap of evidence for this most improbable suggestion, and in any case what Balmat claimed was the discovery of the route he took with Paccard, and that was not the Corridor, but the (lower) Ancien Passage.

(*c*) Gaillard and Montagnier ascribe this exploration to the afternoon of June 9 (the more probable date is June 8), though there are three versions of the story (Bourrit, de Saussure, and Carrier) to one (Balmat in his MS. and his story to Dumas) against this and for the following morning. [Personally, I regard these discrepancies as evidence that the whole story is an invention; *cf.* note 4, and the first paragraph of the present note on p. 130.]

(*d*) According to Balmat's own account, the weather had turned bad, mist and hail came on, and the mist still covered the summit next day. De Saussure speaks of storm, snow, and hail. Who can believe that Balmat could have crossed the Grand Plateau, ascended to the Col de la Brenva and returned on an afternoon of such weather following, as he alleged, on four days and three nights of continuous climbing and exposure?

(*e*) The crevasse is described by Balmat himself as one which they (or he, MS.) had crossed in the morning. How could this be a crevasse at the foot of the Ancien Passage, seeing that the guides had taken the shortest route to the Dôme du Goûter, which turns off to the right below the Petit Plateau and does not touch the Grand Plateau at all? [In the Dumas narrative this is still further coloured by declaring that the crevasse was that in which the three guides of Hamel's party had perished in 1820.] Of course the crevasse was on the descent from the Dôme du Goûter towards the Glacier des Bossons (quite likely on the Glacier des Bossons itself), at a height where an open bivouac (not in, but above the crevasse), though a remarkable feat of endurance, was at least possible. Remember also (*a*) that, to Bourrit, Balmat had declared he had slept out 'higher than the Dôme du Goûter' (!), while (*b*) in his MS. he impudently annexed the height of de Saussure's bivouac as that of his own, and further (*c*) that he describes himself as having seen the lights of Chamonix from it, whereas (see Whymper, p. 19) Chamonix cannot be seen from the Grand Plateau. Contrast this shifting farrago of contradictory inventions with the straightforward and credible narrative of Paccard (§ 10), which, as far as Balmat's adventures after his desertion by the guides are concerned, must have been derived from Balmat himself, and which gives him due credit for his *one* night's bivouac on the snow. (It is worth notice that Dr. Martin Barry, in his account of an interview with Balmat in 1834 says that Balmat spoke 'of *a* night spent in solitude, in a storm, upon the glacier.' His last recorded words at least were true!) With all respect to Gaillard and Montagnier, their construction seems to me quite incredible, save in its last sentences.

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CHRONOLOGICAL TABLE.

Date.	General.	Mont Blanc.
1739.	M. T. Bourrit born.	
1740.	H. B. de Saussure born.	
1757.		
Feb.	M. G. Paccard born.	
1760. } 1761. }	De Saussure's first visits to Chamonix and	Offer of reward to anyone climbing Mont Blanc.
1762.		
Jan.	Jacques Balmat born.	
1766.	Bourrit's first visit to Chamonix.	
1775.		Guides' first serious attempt to climb Mont Blanc.
1779.	De Saussure's 'Voyages,' vol. i., published.	
1782.	Balmat married.	
1783.		
July 12.		Guides' second serious attempt to climb Mont Blanc.
Sept. 16.		Attempt by Bourrit and Paccard.
1784.		
June 4, 5.		Paccard's reconnaissance by Tacul basin.
Sept. 9. 10.		Paccard's reconnaissance by Aiguille du Goûter.
„ 16.		Bourrit's attempt by Aiguille du Goûter (his guides reach Col du Dôme).
1785.		
Sept. 14.		De Saussure and Bourrit's attempt by Aiguille du Goûter.
1786.	'Voyages,' vol. ii., published.	
June 8.		Five guides' and J. Balmat's attempt by Dôme du Goûter.
July 21.	Judith Balmat born.	
Aug. 8.	Judith Balmat died.	Ascent (I) by Paccard and Balmat [Balmat 1].
„ 20.		De Saussure starts but returns next day.
„ 22.	De Saussure hears and records Paccard's story.	
Sept.	Paccard issues his Prospectus.	Exchaquet and Hill's attempt to cross Col du Géant.
„ 20.	Bourrit's pamphlet.	
Oct. 18.	Balmat's first certificate.	
1787.		
Mar. 25.	Balmat's second certificate.	
Feb.–May.	Letters of Paccard and Bourrit in *Journal de Lausanne.*	
June 27.		First recorded passage of Col du Géant (two guides).
„ 28.		Second recorded passage of Col du Géant (Exchaquet).

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CHRONOLOGICAL TABLE—*continued.*

Date.	General.	Mont Blanc.
July 5.		Ascent (II) by Balmat with two others [Balmat 2].
„ 9.	De Saussure's arrival in Chamonix; Paccard-Balmat brawl.	
Aug. 2.		De Saussure's ascent (III) [Balmat 3].
„ 9.		Beaufoy's ascent (IV).
„ 16.		Paccard's visit to Montagne de la Côte with barometer.
„ 28.		Bourrit's passage of Col du Géant.
1788.		
July 2–19.		De Saussure on Col du Géant.
Aug. 5.		Woodley's ascent (V) with Bourrit, who got as far as Petits Mulets.
1792.	Chamonix occupied by French.	
1793.	Paccard *Juge de Paix.*	
1794.	Paccard *Maire* of Chamonix.	
1796.	Paccard marries Marie A. Balmat.	
„	'Voyages,' vols. iii., iv.	
1799.		
Jan.	De Saussure died (59).	
1802.		
Aug. 11.		Dorthesen and Forneret's ascent (VI) [Balmat 4].
1809.		
July 14.		Maria Paradis' ascent (VII) [Balmat 5].
1812.		
Sept. 10.		Rodatz's ascent (VIII).
1814.	Chamonix restored to Sardinia.	
1818.		
Aug. 4.		Count Matzewski's ascent (IX) [Balmat 6].
1819.		
July 12.		Howard and van Rensselaer's ascent (X) [Balmat went as far as Montagne de la Côte].
Aug. 11.		Captain Undrell's ascent (XI).
Oct.	Bourrit died (80).	
1820.		Hamel accident.
1822.		
Aug. 19.		Clissold's ascent (XII).
1823.		
Sept. 4.		Jackson's ascent (XIII).
Oct.	Paccard's first letter to *Journal de Savoie.*	
1825.		
Aug. 26.		Clark and Sherwill's ascent (XIV).
Sept.	Paccard's second letter to *Journal de Savoie.*	

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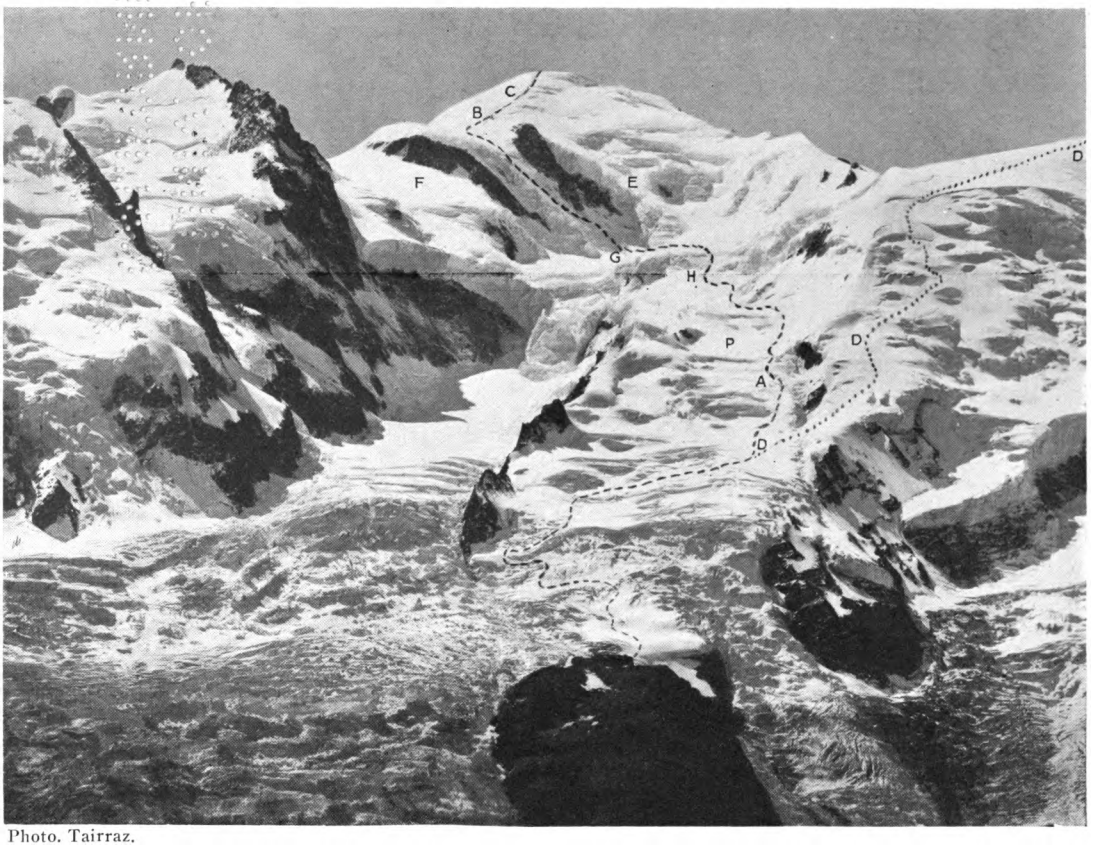

Photo. Tairraz.

MONT BLANC.
Showing original routes.

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CHRONOLOGICAL TABLE—*continued.*

Date.	General.	Mont Blanc.
1827.		
May.	Paccard died (70).	
July 25.		Hawes and Fellows's ascent (XV), first by Corridor.
Aug. 9.		Auldjo's ascent (XVI).
1830.		
Aug. 3.		Wilbraham's ascent (XVII).
1832.	Balmat's interview with Dumas.	
1834.		
Sept. 17.	Balmat's interview with Barry.	Barry's ascent (XVIII).
?	Death of Balmat (72).	
Oct. 9.		Count de Tilly's ascent (XIX).

NOTE ON THE ILLUSTRATIONS.

On the lettered illustration, the upper part of the Montagne de la Côte appears in the middle of the lower edge of the plate. A is the slope leading up to P, the Petit Plateau. [Above and to the right of A is where 'the snow arches over the first rocks at the foot of' the Dôme du Goûter (note 36).] H is the slope leading up to G, the Grand Plateau. [From Chamonix this slope seems to rise between the Rochers Rouges and the Col du Dôme, 'the depression with a rock (*sc.* the Vallot rocks, below the Bosses du Dromadaire) visible in the middle of it' (v. G.).] B are the Petits Rochers Rouges, C the Petits Mulets. Paccard's route is marked - - - -. It turns to the right below the Grands Mulets rocks. Between the lowest D (which is probably the point reached about midday) and G, it is copied from von Gersdorf's sketch (p. 149). Above G it runs up the (lower) Ancien Passage *between* the two tiers of the Rochers Rouges. [The upper part of this portion is where Paccard and Balmat were seen 'hastening along the more level part' (§ 13), and then disappeared in a hollow (behind the bulging snow on top of the lower Rochers Rouges; *cf.* Mr. Lloyd's print of the view from the Brévent) before reappearing near B.] E is the upper Ancien Passage, and F the Corridor. The track now usually followed is faintly visible far to the left of A. The guides' route on June 8 (§ 10) is the dotted line DDD to the Dôme du Goûter (just beyond the highest D).

In the view from the Col de Voza, the 'little plain' (§ 5) is vertically below the Col de Bionnassay, about 1 in. above the lower edge of the plate. [The Col de Tricot (not visible) is a gap in the great ridge of the Aiguille de Bionnassay, which would come beyond, and not quite as high as, the middle of the right-hand edge of the plate.] The dark slope above the 'little plain' is the Pierre Ronde, the undulating top of which, stretching in front of the Aiguille du Goûter, is les Rognes. The fainter ridge just above and behind this is the Tête Rousse ridge. Behind it, but not visible, are the upper (eastern) slopes of the Glacier de Bionnassay, to which descends the widest snow patch (the 'plaque,' § 5), seen on the face of the Aiguille du Goûter. The 'couloirs' are to the left of the plaque, and to the left of them is 'the ridge seen from Chamonix.' The Tête Rousse inn is $\frac{1}{8}$ in. above the middle (rounded) summit of les Rognes.

On Donkin's photograph of Mont Blanc seen across the Glacier du Tacul,

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the site of the Lac du Tacul (which itself is visible on Mr. Lloyd's print) is near the lower left-hand corner. The background of the Tacul basin is shut in (from left to right) by 'the three granite aiguilles' (Grand Flambeau, Aiguille de Toule, Aiguille d'Entrèves) and the Tour Ronde. The Aiguille Noire rises on the further edge of the massive rock slopes above and to the left of the Séracs du Géant. The route to the Col du Géant turns to the left between the Aiguille Noire and the Grand Flambeau. The Petit Rognon is the rock island above and to the right of the Séracs.

Of the two views from the summit of Mont Blanc, M. Bregeault's shows the main axis of the chain running to the Grandes Jorasses (the shaft of the 7), while Abraham's gives the continuation of this to the left, showing the Aiguille Verte—the cross piece of the 7 (§ 14).

Of the lower and upper Anciens Passages, there is an impressive view in Mathews, p. 104, and also another, somewhat heightened, in Whymper, p. 21.

My best thanks are due to Mr. R. W. Lloyd, Dr. H. Dübi, Sir Ernest Benn, M. Bregeault, and others, for permission to reproduce their illustrations.

E. H. S.

On the Fringe of the Pamirs.

By W. RICKMER RICKMERS.

EVER since my first visit to Bokhara in 1894 the mountains of Western Turkestan have held me enthralled. Exploring the ranges of the Zarafshan, of Hazrat-Sultan, Peter the Great, and Darvaz, I moved further and further E., although

the Pamirs themselves remained closed to me. In 1913, my party penetrated into the western valleys of the Sel-tau, that long meridional chain forming the western fringe of the Pamirs. Here white spots on the Russian map—or rather nests of irresolute 'worms'—had fascinated me as long as I can remember. Here was the lure of legendary passes, of unknown glaciers, of peaks fabulously high.

Then the world stood still for a while, its activities being

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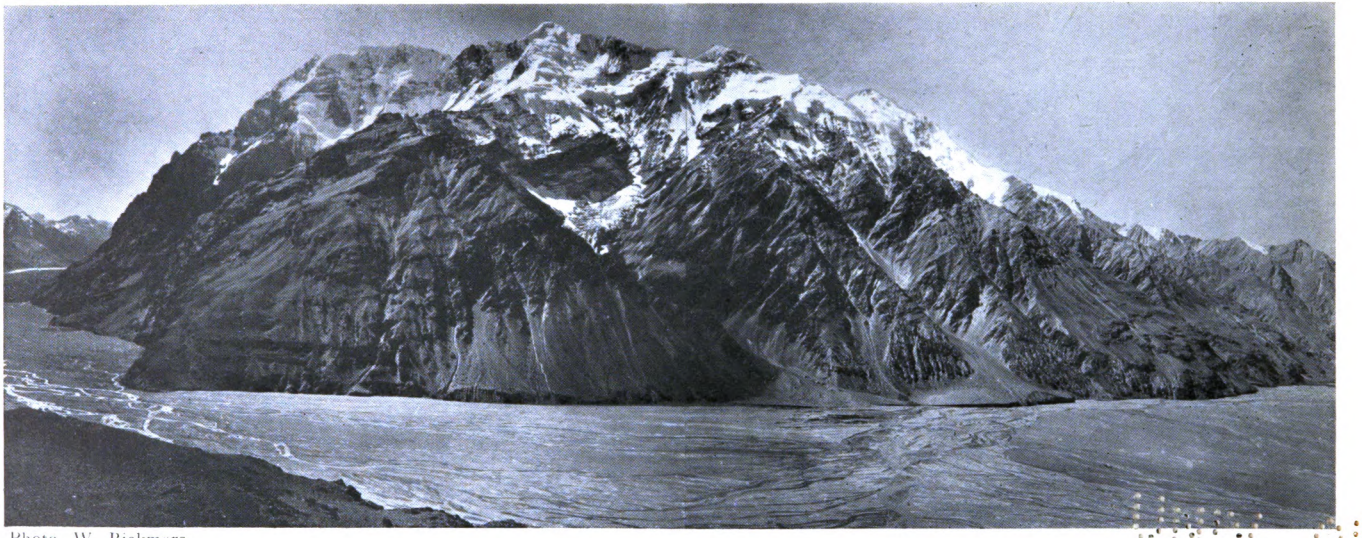

Photo. W. Rickmers.

Mountain Group of SHILBE-MUZ-JILGA and SANDAL above ALTIN-MAZAR from TERS-AGAR Pass.

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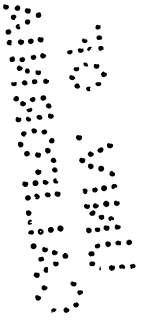

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moved to another plane. But after fifteen years I was granted a resumption of the work where it had been left off. Metaphorically in the van, but actually in the rear, with spirits high, but flesh slightly deteriorated I led twenty-one Russians and Germans to the attack (see Dent, *Mountaineering*, Badminton Library, 1892, p. 114). This time I decided to tackle from the E., across the Pamirs, the 4000 square miles of mystery which by good luck had agreed to wait for me. On this side the roads are easier, and one starts climbing from a higher level, but the sparseness of the population, nomad as well as settled, makes it difficult to obtain porters or supplies. And oh! those never-ceasing winds, and the dust! The western face of the Sel-tau is steeper, more Alpine; the valleys are narrow, and the trails narrower still. But here a race of mountaineers lives in garden-villages, and thick jungle grows up to the snout of the Garmo Glacier.

The expedition—officially called the 'Russo-German Alai-Pamir Expedition, 1928'—was mainly scientific. Although this sounds rather sedentary there was no mistake about the nimbleness of our high-brows. The sitting fell entirely to my lot, for I was maid-of-all-work in the base-camps. Needless to say the topographers and geologists were excellent climbers. Dr. Finsterwalder and his assistant Herr Biersack accounted between them for fifty photogrammetric viewpoints from 5000 to 5500 m. high. For geographical patrol work and voluptuary peak-bagging we had a crew of four, sifted from the pick of German mountaineers (Herren Borchers, Allwein, Wien, and Schneider), to whom must be added Dr. Kohlhaupt, a free-lance, and the first discoverer of the Tanimas Pass. If these men had all the accidents in the way of broken jaws, lacerated thighs, and frozen feet, they also had all the fun and no work; I mean work throwing an extra strain on grey hairs.

Coming from Osh our bulky caravan made its first long halt on the shores of the Great Karakul Lake. The season being early and cloudy (beginning of July), the giants of the Trans-Alai, Mts. Kaufmann and Kurumdi, had not shown us much beyond their lower slopes descending to the Great Alai valley (valley of the Kizil-su River). Short gullies lead up to precipices studded with icefalls. While preparing the further stages of the journey, I sent out a strong party to explore the southern approaches of Mt. Kaufmann. Before leaving for their base-camp in the Kara-jilga valley they ascended Koksukur-bashi, a dome-shaped hill near Hu Lake, 5700 m. high, using ski from

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the snow-line to the top and afterwards enjoying an exhilarating run down on excellent snow. This was the first and last opportunity for an extensive use of the ski, some of which were afterwards made into sleighs for glacier transport. With the advance of summer all névé becomes furrowed and encrusted with a glassy foam.[1]

From their Kara-jilga base the mountaineers explored the Kara-jilga Glacier and various side-valleys, climbing a number of fine peaks up to 6000 m. The lack of porters prevented them from getting near the foot of Mt. Kaufmann defended by a maze of glaciers. They saw enough, however, to warrant the belief that an easier way might be found from Altin-masar on the W. As only very few conspicuous peaks have native names, we christened our mountains after general features or familiar shapes: The 'Cone,' 'Limestone Cliff,' 'Trapeze,' 'Grandes Jorasses,' 'Breithorn,' 'Ushba.' These names were for private use only, the official writing on the map being the privilege of the U.S.S.R.

Meanwhile I was moving headquarters to the Tanimas valley. The Tanimas river runs at first due E. Then it bends S. and is now called the Bartang which flows into the Panj or Upper Oxus. According to the best of our knowledge—we know better now—the Tanimas was the only gate to the very heart of the Sel-tau range. Here I collected supplies and had porters drafted from the nearest Bartang villages 30 and 50 miles away. In this camp (3000 m.) buckthorn, horseflies, and dust-blizzards find their way into the innermost corners of the human frame. But I sat at the door of Revelations. The Tanimas Glacier was supposed to be the biggest in the Pamirs; the peaks at its head were supposed to be higher than Mt. Kaufmann; its uppermost saddle was supposed to be the mythical Kashal-ayak Pass. Kohlhaupt at once volunteered to reconnoitre; Perlin, a sporting young Russian, offered to accompany him. Those two set out quite alone and returned after four days of many hardships, having reached the top of the Tanimas Pass. Their greatest surprise was the absence of the Tanimas (main) Glacier. Instead of that they found three right side glaciers forming pinnacled barricades across the valley. Looking W. from the top of the pass they saw before them an expanse of snowfields so vast and so level that in the short time at their command they could not quite make out whence they flowed and whither they were bound.

[1] As on Mt. Everest.—*Editor.*

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Photo. W. Rickmers.

SANDAL Mountain from TERS-AGAR Pass.

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Photo. W. Rickmers.

The ALAI valley and the TRANS ALAI range with Mt. KAUFMANN.

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Afterwards it took a long time to believe, and still longer to know for certain, that this was the Fedchenko Glacier which from Altin-mazar stretches for 44 miles along the eastern flank of the Sel-tau range.

On July 24 I established a permanent camp just beyond the first glacier officially named *Notgemeinschaft Glacier* by the Soviet authorities. (The *Notgemeinschaft* is the German Society in Aid of Science.) It is almost as long as its name, 20 miles. In this camp, known as Dust Camp, I spent six weeks seeing more or less (generally less, praise be to them) of the staff for inorganic nature. The zoologist and the linguist remained invisible for months, preferring regions where bees buzz and humans hum. Porters came trickling in at irregular intervals, trickling out again to look after their miserable barley crops. I never had more than fifteen strong men, and sometimes only a few cripples. What with supplying the higher camps, and what with three parties ever on the move with instruments or sleeping kit, I often found it difficult to make both ends meet.

But all hands worked with a will, and gradually the topography began to clear up. Two of the ' die-hards ' found and crossed the Kashal-ayak, the only easy pass over the main range. It connects the Fedchenko Glacier with the Vanch valley. One can go down the Fedchenko to Altin-masar or over the Tanimas to the Pamirs. A party of Russian mountaineers discovered and crossed the pass from the Yazgulam valley. In future times the best base will be at Altin-masar where food, fodder, and men are easily obtainable. From there the Fedchenko Glacier forms an ideal highroad.

It would take too long (other editors besides the Editor ' A.J.' are at this very moment feeling the urge of honouring me) to enumerate all the long glaciers tramped and all the towering summits scaled. But I trust our Editor will give me another opportunity, in spite of this scraggy paper which I feel is an insult.[2] Well, my comrades did a lot of fine work while I wrote *chits* in camp or swallowed good food (mutton with rice on Monday ; rice with mutton on Tuesday) and dust. The condensed result will be seen best in the shape of the new photogrammetric map.

Towards the end of my stay I managed at last to do a little mountain of my own, having abstracted two porters from a fresh draft. A steady grind of 7 hours up interminable scree-

[2] We regard this as a promise on Herr Rickmers's part.—*Editor.*

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slopes brought me to a fine viewpoint 5300 m. above sea-level. Near the top I panted a little, but felt that with proper training I might qualify for 6000 m. or even higher.

After that I shifted the heavy kit to Altin-masar by devious ways, while the mountaineers walked down the Fedchenko Glacier. Now came the second attack on Mt. Kaufmann[3] (7130 m.) by the Sauk-sai valley and glacier. This glacier proved another surprise. It runs E. along and *past* the southern flank of the big mountain. Only then does it curve northward tapping the eastern shoulder of Kaufmann. From a camp on this saddle (5700 m.) Allwein, Wien, and Schneider climbed the culminating point of Soviet Russia on September 25. All came down with frozen feet now fortunately cured. During the last stages of the climb they had to rest every 10 yards.

Anyway, I have learnt something new on this trip. I shall take a secretary. She will do the writing, and I shall do at least some climbing and not only hear about the climbs that the others have done. Fortunately there is still a lot to be accomplished in and around the Pamirs.

[We are indebted to the Council of the R.G.S. for the use of the two maps.]

'Mystery Mountain' (Mt. Waddington), 13,260 ft.

By W. A. DON MUNDAY.

(Reprinted from the *Vancouver Sunday Province.*)

THE year 1928 saw three of the original 1926 party united to tackle 'Mystery Mountain,' the trio being my wife, my brother, A. R. Munday, and I. Our good friends, the officers and crew of the Union s.s. *Venture,* [illegible]nded us on June 12 at the Knight Inlet Cannery, where we received a hospitable

[3] The mountain is so named after the celebrated Russian General, Constantine Petrovitch Kaufmann, conqueror and Governor-General of Russian Turkestan from 1867 till his death at Tashkend in 1882. He took Samarkand in 1868, also Khiva, Bokhara and Khokand. His advance was the main cause of the British-Afghan war of 1877–8.—T. G. L.

The mountain has been rechristened lately in honour of a notorious assassin who died in a lunatic asylum. In these pages the name of Mount Kaufmann will be maintained.—Editor, *A.J.*

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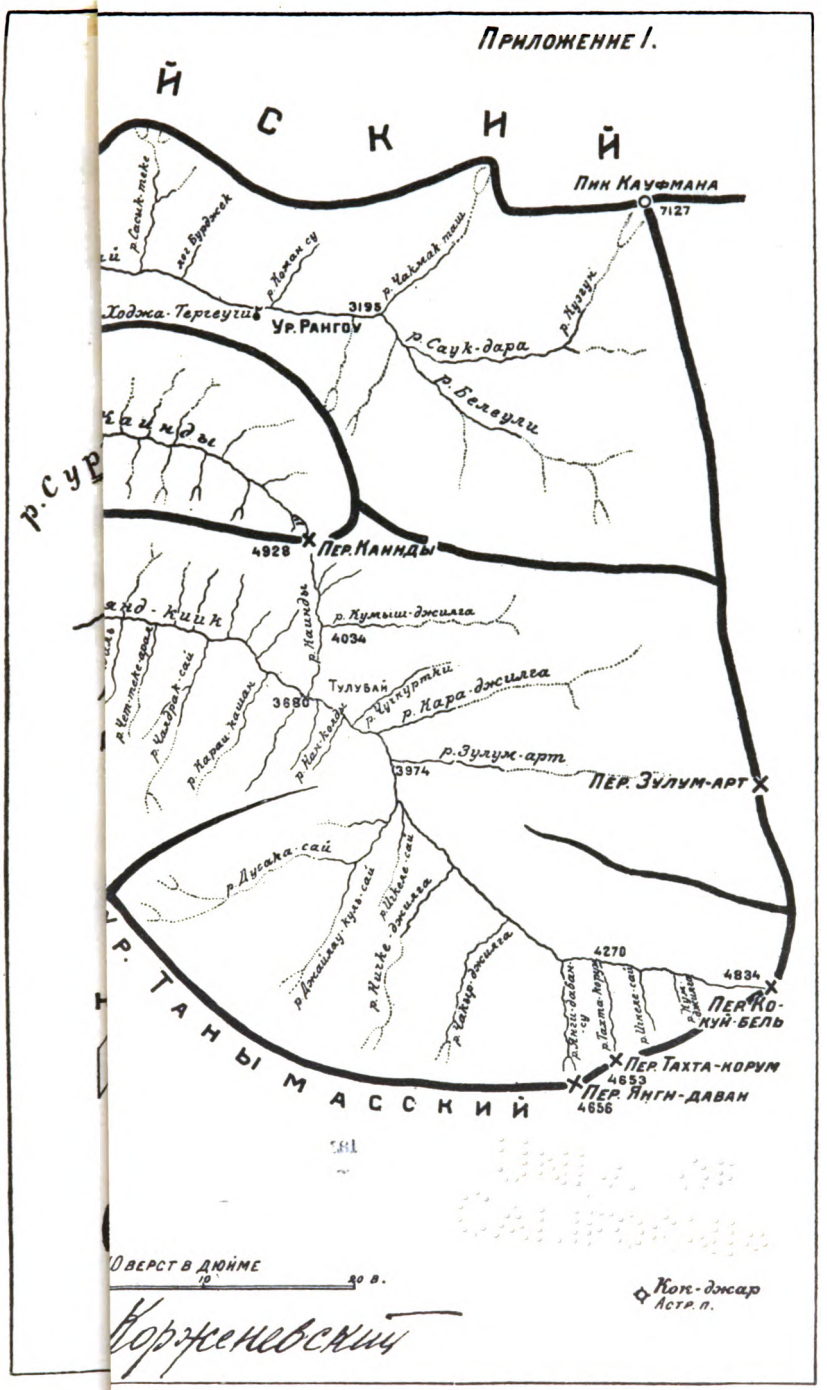
Приложение I.



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reception. Knight Inlet is one of British Columbia's most magnificent fjords and perhaps one of the windiest, but as guests on board the fish-warden's launch we sailed next day in comfort up the inlet for 30 miles till the packing blew out of a cylinder. While repairs were being made we unpacked our 'kicker' (outboard motor) and with our rowboat towed the launch.

This delayed us getting ashore, but after midnight we got into camp on a spot which, by the grace of the turbulent Franklin River, was unflooded. We had 2 months' supplies to transport on our backs to our base camp, 5400 ft. above sea-level. This meant three tedious trips up the Franklin gorge and up the glacier which descends to within 500 ft. of tidal water. In doing this we climbed altogether over 16,000 ft., and travelled well over 100 miles, two-thirds of that distance among the crevasses of the rugged glacier. We were now in the midst of a region where every valley was occupied by rivers of ice tributary to the main glacier.

Snow covered most of the ground at the site of our base camp and we spent the first night on a snowbank. Next day we built up platforms of logs to get level spots on which to pitch our tents on the steep slopes at the brink of the cañon of Yellow Creek, 9 miles from our mountain, this being the nearest point possessing good shelter and plenty of wood—we had suffered from lack of these the previous year. To some people, rocks are just rocks, but the rock around Yellow Creek is a volcanic *breccia*, apparently of Cretaceous age and therefore of much interest to geologists because of its occurrence in this part of the Coast Range.

All the way up the glacier the big peak had been in sight, always tempting our eyes aside from the task of picking safe footing among the chasms barring a direct course. Perhaps mountaineers would not regard this section of the glacier as especially dangerous, but when burdened with 60 or 70 lbs. one's nimbleness does not amount to much at the end of 12 hours on the ice. We had not got properly settled in the base camp before a southeaster rolled up, the first of a series of storms which clung tenaciously around the mighty form of Mt. Waddington.

We used this unwelcome leisure in making the camp comfortable. Under the fly which was our dining-room and kitchen, we built a table, shelves and seats. Next, with axe and knife, we constructed a sled fashioned of gnarled timberline trees. On it we hoped to haul our packs to the foot of

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Mt. Waddington from the 7200 ft. pass at the head of Yellow Creek. While reconnoitring this new route, in a brief spell of welcome sunlight, we climbed Mt. Whitetip, a snow-covered rock tower of about 8700 ft.

Returning from this interesting little conquest, we descended from the upper sunlight into a sea of cloud, dark as coal smoke. This meant more days of rain at base camp, with snow on the high levels.

Getting desperate at the way time was slipping by, we packed up in defiance of the weather and started for Mt. Waddington. We got a real thrill out of tramping along and letting the sled groan and creak under the weight of our packs, but increasingly bad sledding forced us to resort to 'back-packing' once more on the upper part of the W. branch of the Franklin Glacier.

Climbing the 1000-ft. icefall of Fury Glacier in the evening shadows to Fury Gap, which still proved to be a gateway for storm, we hurriedly built up a rock platform on which to pitch the tent and were presently under cover with the oil-stove purring cheerfully.

Before this spell of evil weather blew itself out we doubted the wisdom of having pushed forward to this ledge on the desolate western cliffs 5000 ft. from the summit of Mt. Waddington. Weary of confinement in the tent, we set out near midday, July 7, towards Mt. Chris Spencer, 11,000 ft., being rewarded at 9000 ft. by a view down the Scimitar Glacier's gorge which surely is the most impressive of its kind in Canada. Here the remodelling of the world is still in full swing and Scimitar Glacier is dotted with hills of débris hurled down in landslides from the gaunt precipices walling its sinuous course for miles. The region N. of Mt. Chris Spencer bristles with spire-like peaks, many of which may force climbers to restore the word 'impossible' to their climbing vocabulary.

We climbed the rocks to nearly 10,000 ft. till the fantastic crags and buttresses were lost in persistent cloud, yet at the same time the giant form of Waddington was revealed almost cloudless, gleaming in sunshine, and challenging; a mountain beneath which to stand in awe and wonder. Snow conditions looked reasonably good on the upper levels, so, foregoing the ascent of Spencer, we turned back to camp to prepare for Waddington.

The oil-stove balked badly when I lit it at 1 A.M., July 8, to cook breakfast, so we did not get away till 4.35. By 7 A.M. we had mastered the rotten rocks of Fireworks Peak and at

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10,500 ft. were above the clouds eddying over the lesser mountains. We went on, laden with small rocks with which to mark our trail across a zone of masked crevasses likely to prove dangerous on our return after dark. The storm had left every snow slope icy hard at this elevation.

With ice cliffs dropping away for 6000 ft. on the left and still steeper rock cliffs on the right, one felt while travelling along the narrow crest of the great W. ridge of Mt. Waddington as though treading the roof-tree of the Coast Range. It is hard to describe that skyline climb over the crests of five peaks from 10,500 to 11,500 ft. high, but it was certainly no place to be on without tried companions.

There were places calling for all the coolness and skill we possessed. One of these was the descent of the 'Gangway,' a narrow ledge we discovered last year; it angled down for 300 ft. along the base of the ice-cap of Bulge Peak; the ledge was from 6 ins. to 2 ft. wide and actually overhung the void below so that we could see daylight between the rocks underfoot. There were two breaks in this ledge where we had to work across the face of the ice wall.

We lunched leisurely on the top of Bulge Peak, rightly judging that while we did so the sun would soften the face of the next shoulder ahead so that when we reached it we would be saved an hour of step-cutting.

On crossing a 12,000-ft. snow-dome, we swung down, thanks to a none too permanent-looking snow bridge over an otherwise impassable chasm, into the hollow of 'Angel' Glacier. At this point Mrs. Munday took the lead for a time and almost at once came to a wide crevasse with no way round, our whole hope of success depending on a doubtful snow bridge. It cracked under her feet and settled visibly, but it held and she went on cautiously while we followed.

Seemingly the snow never thaws on this slope of the mountain. Our boots froze, though the sun shone brilliantly. We toiled for 1000 ft. up an icy slope drifted over with loose snow. A little short of 13,000 ft. we sat down on the snow and ate supper.

The final 400 ft. of the peak looked deceptively easy and not unduly steep. It turned out to be mostly as steep as to be possible to ascend after the treacherous cover of snow had been cleared and steps cut in blue ice. The time was 7.25 P.M.

We had struck the only part of the summit where it was possible to see down the other slope as two corniches flared upward and outward, leaving us so little room between them

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that there was not even space for a picture of the party straddling this altogether extraordinary summit. The S. peak was a few feet lower, while the E. peak, ice-festooned and quite accessible, was a few feet higher than the main mass on which we perched wondering a little how we were going to get down.

To the N., Mts. Tiedemann, Combatant and Asperity towered to about 12,800 ft. Across their crests we saw Twist Lake and beyond it the source of the W. branch of the Homathko River in the blue Chilcotin plateau. To the N.E. we looked through the mountain portal by which the E. branch of the Homathko penetrates the range at Tatloyoko Lake. We also saw the full length of the Klinakline Valley which, like the Homathko, cuts a greater trench through greater mountains than the famous Fraser Cañon.

The magnificent panorama covered at least 25,000 square miles, and the Matterhorn-like monolith of Mt. Monarch, 11,714 ft., although 70 miles away to the N.W., stood out even in the middle distance. A lesser peak of similar outline overtopped all the violet crests of the Vancouver Island mountains to the S.

Westward an unexplored chain of 10,000-ft. peaks with notable snowfields seemed an entirely new contribution to the known geographical features of the province. Eastward a few clouds prevented adding to our knowledge of the immense Homathko snowfield which probably covers over 200 square miles.

Though the sun was still an hour above our horizon, the whole scene suddenly flamed with colour. Overhead the sky was violet black; the whole horizon was rimmed with orange, and above it a broader band of vivid green merged into the intense blue of high altitudes. Transformed with purple, green, blue, rose and bronze, the mountain glowed for one glorious hour during which we descended to 12,000 ft. Later a pale aurora in the N. dimly lighted our way through the wind and frost of the night as we climbed the rock and ice cliffs of the barrier peaks of the W. ridge. Evil weather was brewing, although too slowly to threaten our descent to camp, which we reached at 2.30 A.M.

When next we saw Mt. Waddington clear of cloud it was draped with new snow for 4000 ft. below the summit, but we had been granted our one perfect day. Although we had hoped to climb other peaks in this magnificent region, we started for home well content.

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Photo. Mrs. Don Munday.

'Mystery Mountain' (Mt. Waddington), N.W. and S.W. peaks from 9500ft. on Mt. CHRIS SPENCER.

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Mr. Munday kindly sends an additional note . . . 'We climbed the N.W. peak [of Mt. Waddington]. The ascent involved the traverse of four subsidiary peaks 11,000–11,500 ft. and almost a complete traverse of one somewhat higher; the descent was a repetition of this. The mountain is 5 miles long at the 10,500-ft. level, and comprises a score of peaks ranging from that height to 13,260 ft.

'Mts. Combatant, Tiedemann, and Asperity, to the N., we found to be between 12,700 and 12,800 ft., and therefore higher than any of the Rockies except Mt. Robson.

'Scimitar Glacier, discovered by us in 1927, we saw more fully. It flows in a general northerly direction, following a remarkably sinuous course and failing to fit in with the drainage system of the West Homathko River as shown on existing maps. It is the most interesting of the three great glaciers of the great group of peaks; it can scarcely be less than 12 miles in length, possibly much more. Tiedemann Glacier is about 16½ miles. Franklin Glacier is 20 miles and covers 100 square miles. Scimitar Glacier is burdened with the débris of four immense rockfalls which might be termed landslides. Waddington Glacier, descending 9,500 ft. from Mt. Munday (11,000 ft.), does not touch Mt. Waddington. To the N.W. between Mts. Bell, Chris Spencer, and Geddes, there is evidently an immense glacier draining to the Klinakline River. Franklin Glacier represents a zone of glaciation of 12,700 ft., Tiedeman Glacier about 11,000 ft. To the W. of the Klinakline valley we saw clearly for the first time an unexplored, unknown range about 40 miles in length with a uniform height of about 10,000 ft. Its glacial features are developed on a huge scale, not improbably surpassing the Waddington region. Following along the core of the range S.E. from Waddington, glaciers continue on a scale generally unsuspected, for at least 100 miles, and a glacier 15 miles in length is creditably reported by a recent geological survey party as existing at the head of the Lillooet River.

'The average height of the peaks will not, of course, equal the main range of the Rockies, though the glaciers so completely dwarf anything S. of Alaska. Still, there are a goodly number of peaks over 1000 ft., and, curiously enough, the progress of accurate surveys is adding height to the peaks. Garibaldi Park has acquired two 9000-ft. peaks as the result of the survey just completed.

'We are hoping to go back this year to look for the not obvious way up the main pinnacle of Mt. Waddington. The

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mountain is more intricately dissected than distant views suggest—very much more so. Last year we got into the district more easily, but at best it is a slow process getting supplies up the glacier.

'The following names have been approved by the Geographic Board: Mts. Bell, Chris Spencer, Geddes, Waddington, Tiedemann, and Munday. Approximate heights: Bell, 12,000 ft.; Spencer, 11,000 ft.; Geddes, 11,500 ft.; Tiedemann, 12,800 ft.; Munday, 11,000 ft.

'If this note has grown to undue length, please make allowance for the natural enthusiasm of one whose privilege it has been to be the first to make known a great new Alpine area. Few of the pioneer climbers on this continent have penetrated areas about which so little was known before they came. We have not achieved much from the point of view of summits attained, but the exploration has been a wonderful experience.

'W. A. Don Munday.'

[For another illustration of 'Mystery Mountain,' see 'A.J.' **40**, 100.]

A Bavarian (1928) Expedition to the Caucasus.

An expedition, organised and partly financed by the Munich A.V.'s section 'Hochland' and the Rhine-Westphalian sections, left Munich on July 4, 1928, with the object of visiting the Caucasus. It consisted of the following mountaineers: Herren Paul Bauer, Ernst Beigel and Hans Niesner of the 'Hochland' section and of Heinz Tillmann of the 'Duisburg' section and Munich A.A.V.

The party proceeded *via* Berlin and Warsaw to Moscow, where they got into touch with members of Russian mountaineering circles, and their journey onwards was facilitated by the assistance of the German Embassy. After a long journey *via* Voronesh and Rostof, they arrived on July 15 at Naltshik at the N. foot of the Caucasus. A two days' ride then brought them to Bezingi, the highest village in the valley of the Western Cherek. A day's march with two pack animals for the carriage of the combined kits and food led to a 'Karaulka' (military post) on the right lateral moraine of the Bezingi Glacier at a height of some 2380 m. Here the tent was permanently pitched as a standing camp for 18 days.

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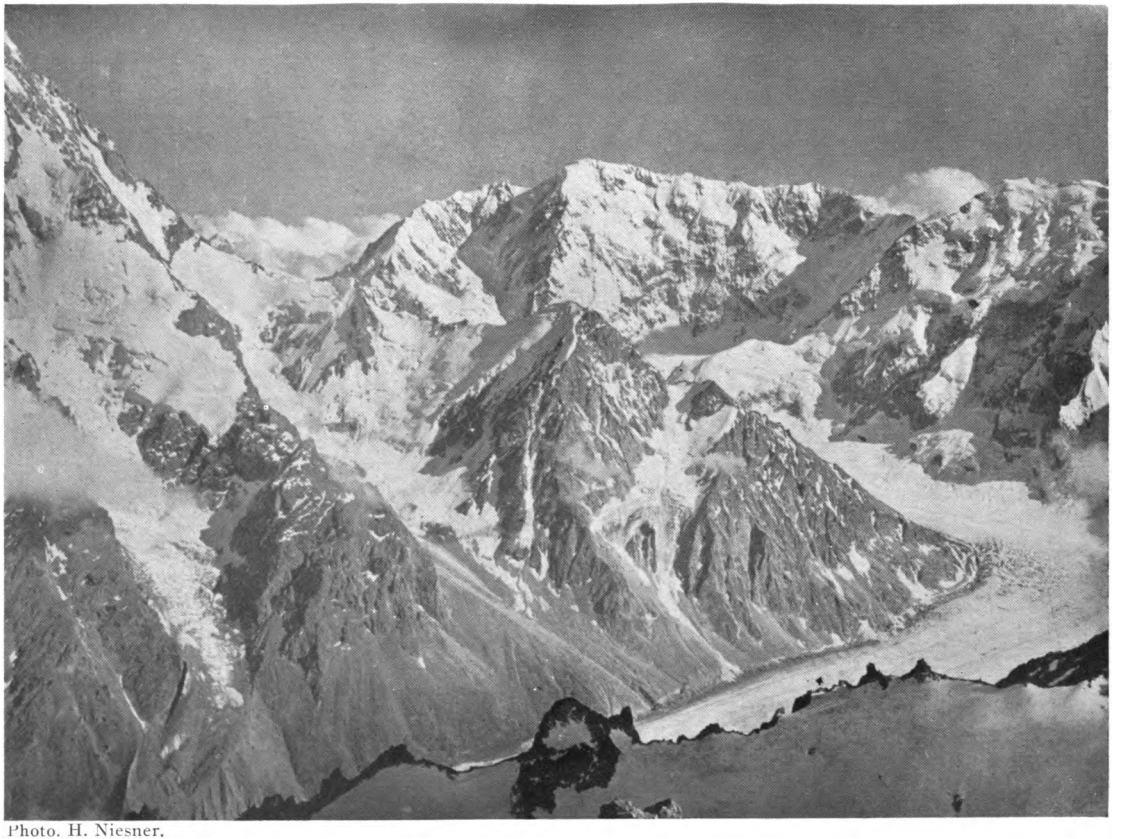

Photo. H. Niesner.

SHKARA and BEZINGI Glacier from TSCHUMURTSCHERAN TAU.

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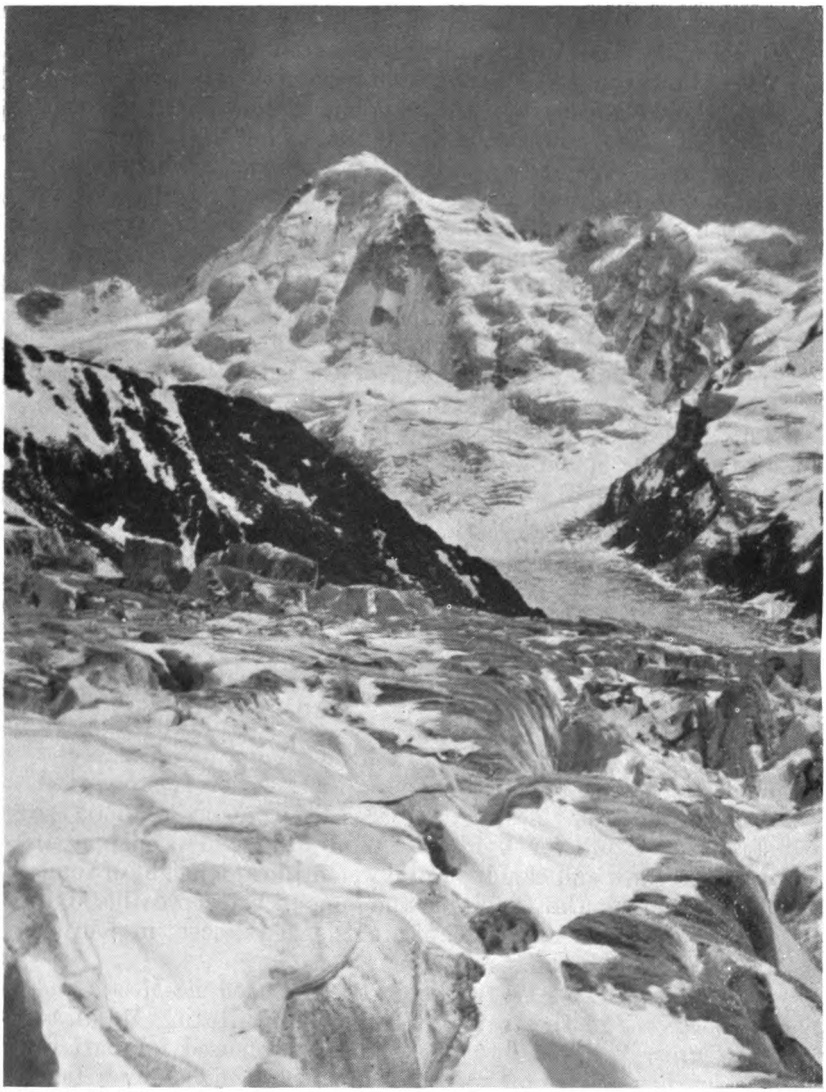

Photo. H. Niesner.

TETNULD from central ZANNER Glacier.

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On July 19 the highest peak of Tschumurtscheran Tau, 4304 m., of the hitherto unexplored Kargashili Tau chain, was climbed for the first time. On July 21 a start was made for Dychtau, 5198 m., the second highest mountain in the Caucasus. With two bivouacs, at about 3800 m. and 5050 m., the rocky S. arête was traversed for the first time up to a height of about 5160 m. Here, however, at 18.00 hrs., owing to the approach of darkness, snow and a thunderstorm, the party had to return within a rope's length of the summit. After a second bivouac at 5050 m. the expedition had to be given up, and in deep snow, verglas, snowstorms and blizzard the ridge had to be descended. The party arrived at Karaulka on July 25, at 02.00 hrs.

Between July 27–29 took place what is described as the ascent of Katuin Tau, 4900 m. by the N. buttress, the traverse of Adish Tau, 4968 m., of Gestola, 4960 m., and of Lyalver, 4350 m., with descent by the N. arête to the Lower Zanner Pass. During these expeditions two bivouacs at about 4300 m. and 3900 m., in ice caves, proved necessary.

Between July 31 and August 3, the second ascent of Shkara, the third highest peak in the Caucasus, by a partly new route, was effected. From the Dychsu-Aush Pass, 3877 m., the N. peak, *ca.* 5050 m., and the E. peak, 5184 m., were attained over the steep N. arête. The descent was made over the N. arête and its W. slope to the Upper Bezingi Glacier. Two bivouacs were made in scooped-out ice caverns at 4380 m. and 4770 m.

On August 6 a start was made for the Upper Zanner Pass, about 4100 m., the entire kits—about 70 lbs. a man—being moved. Fresh snow, technical difficulties and pathless forests made up a long and weary march and two bivouacs proved necessary. From Mestia, the largest village in Suanetia, a start was made for Ushba. For 4 days and 3 nights, in ceaseless snow and cloud, a camp was made at a height of some 3200 m. on the Gul Glacier in the hope of better weather, but on August 16, owing to lack of provisions, a descent in pouring rain to Betsho became obligatory.

Between August 17–19 the party proceeded *via* Mestia and Shabesh, one of the scattered hamlets constituting Mujal, to the Tuiber valley. Two pack horses were used for part of the journey. A camp was pitched for two nights by a tarn in the medial moraine, at 2800 m., at the foot of Tot Tau. After a reconnaissance on the previous day, Tot Tau, *ca.* 4140 m., of the Svetgar chain, was climbed for the first time by a steep couloir and a sharp rocky ridge. An attempted first ascent of Skala Bodorku had to be abandoned 150 m.

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below the top owing to clouds and a snowstorm. The crossing of the 3600 m. Tuiber Pass necessitated another bivouac, in storm and hail, on the Zynel Glacier at 3075 m. Chegem was attained, late on August 22, through the Gara-Auz glen and Chegem valley. Thence in two days, with two carrioles, down the Chegem valley and out over the steppes, the expedition ended at Naltshik.

Munich was reached on September 4, *via* Moscow and Berlin. The expedition was much handicapped throughout by bad weather and continual fresh snow.

The members met with every assistance from the Russian officials and a warm welcome from the local inhabitants. It may be added that the expedition was provided with small kits and but little money.

HANS NIESNER.

Mr. Freshfield sends the following note :—

The Bavarian mountaineers deserve warm congratulations on the large measure of success that attended them in their keen struggle with the giants of the Central Caucasus, a struggle intensified by much ill luck in the weather. The most noteworthy feature in their story is the hardihood by which, in a series of unprotected bivouacs at great heights, they countered the length which has proved a frequent hindrance to success in Caucasian climbs ; only under Ushba did they make use of a tent ! In their other expeditions they were content to dig holes in the hard névé slopes and make use of such coverings as were at hand.[1]

I add a few words as to nomenclature : Katuin Tau, Gestola, Tetnuld and Lyalver are all names in local use. The ' Saddle Peak ' is the name given to Katuin Tau by British climbers. The Adish Peak is a name I gave to a rocky spur of the Saddle Peak standing out on the E. side of the icefall of the Adish Glacier. I do not think the Bavarians touched this summit. As far as I can gather their route lay up the N. face of the lower Saddle Peak, over the higher summit and along the fairly level ridge to Gestola and then over both that peak and Lyalver to the lower Zanner Pass. This would probably amount to a combination and extension of Dent's and Holder's routes (see ' The Exploration of the Caucasus '). The

[1] Herr Niesner states that they employed a ' four-men ' *Zdarsky* tent-sack and two light silk rugs.—*Editor.*

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Photo. H. Niesner.

BEZINGI.

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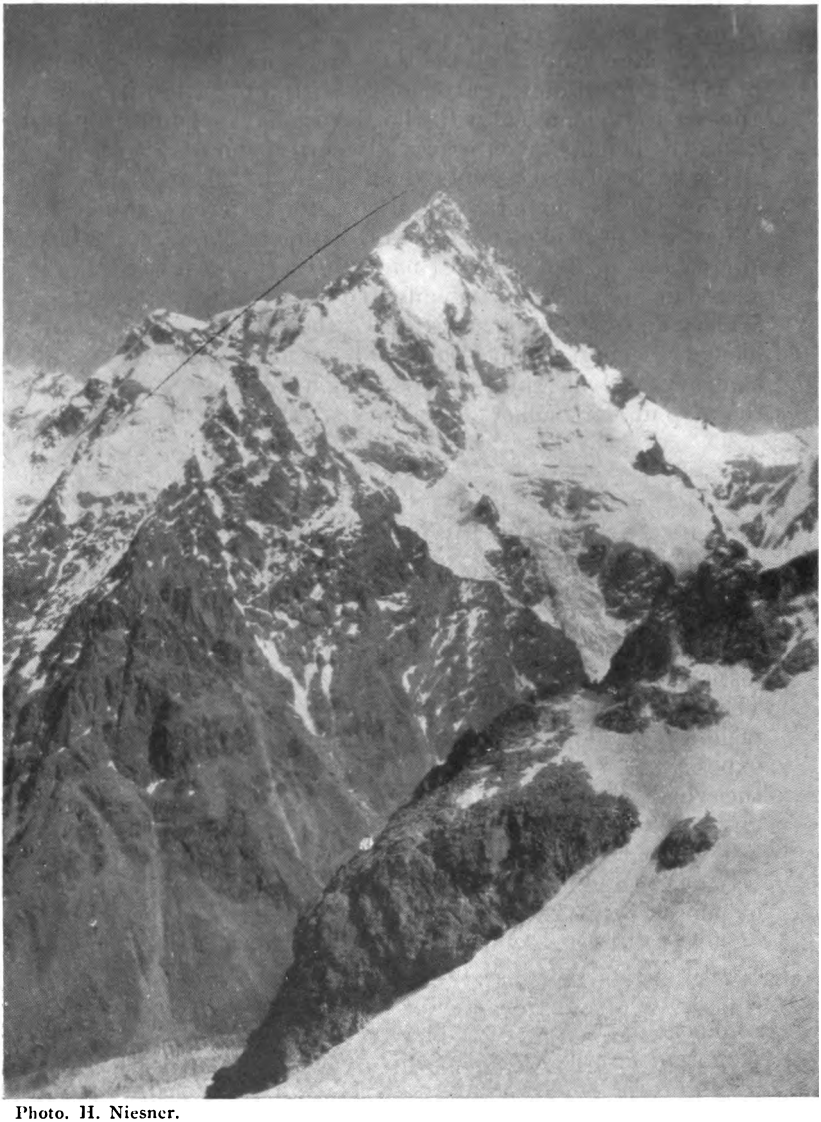

Photo. H. Niesner.

DYCH TAU from TSCHUMURTSCHERAN TAU (from the W.).

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skyline between the Saddle Peak and Gestola as seen from the N. is fully shown in the illustrations (vol. ii. pp. 36 and 39) to my book.

As to Kargashili Tau, see the same work; map and vol. ii. p. 254. I mention a peak Shorast Kirtaran, 14,160 ft., which appears to be identical with the Bavarians' Tschumurtscheran Tau; the heights given practically correspond.

The table of first ascents given in 'A.J.' **26,** 96–7, and **30,** 194–6, will be found very useful for reference when the Caucasus is once more opened to British mountaineers. I have altered the spelling of local names in the above narrative in accordance with the system adopted by the Royal Geographical Society and in 'The Exploration of the Caucasus,' as it is that likely to be most familiar to British readers. Germans, on the contrary, will naturally follow their own system as found in the map in Merzbacher's 'Kaukasus.'

The Alpine Club Photographic Exhibition, 1928.

THE exhibition was fully up to its usual standard and totalled 148 exhibits. These varied largely. Some were of purely topographical interest whilst others were distinctly artistic; one or two combined both these qualities. There were also some prints that were frankly bad from a technical standpoint, being over enlarged, over or under exposed, or even seriously disfigured with blemishes, but on the whole the technical quality of the majority of the photographs was excellent. It is this latter point that encourages a few remarks.

A photographer, once he has mastered the technical side of photography, should turn his attention to the composition of his pictures. Composition means much more than an artistic arrangement of details. It is the art of condensing the essential beauty or grandeur of a view within the narrow confines of a film or plate. The most happy-go-lucky mountaineer who ever clicked a shutter will want to record his impressions of what he saw, and obtain a picture which will serve to remind him of the magnificent scenes that have delighted him. The small amount of trouble, the few extra seconds involved in arranging the details in the view-finder will be more than compensated by the results. True, there are some people incapable of arranging a picture, but even

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these, by applying a few simple rules, can greatly increase the beauty of their records.

Many of those who contribute annually to the exhibition select their negatives from among a large number of others. This selection should be influenced by the composition of the negative chosen for enlargement.

Most of the exhibitors must have studied Mr. Arthur Gardner's admirable book on Alpine Photography and marvelled at the beauty of its illustrations. Yet Mr. Gardner would be the first to admit that the perfection of his compositions is really dependent on a few simple rules.

The most important point in photographing mountains is to convey some idea of the scale. To do this a foreground is nearly always essential; it may be composed of a human figure, a tree, a chalet, or even grass or stones. The effect is to enhance the grandeur of the main subject—the mountain—in the background. We have a method of comparison, a poor one maybe, but the best we can get. Once having obtained a foreground, the details of the picture must be arranged. Parallel lines are to be avoided at all costs. Nothing is more ugly than a level foreground backed by a level horizon. But the whole art of mountain composition lies in the position of the vanishing point, *i.e.* the point of intersection of the main lines of the picture. This should almost always be *outside* the picture. Thus, the eye is being led up to a climax, but, paradoxical though it may seem, to place the vanishing point in the picture means an anti-climax. In other words, it is better to leave the climax to the imagination. This does not of course mean truncating a peak, that is merely irritating, but let the main lines of the foreground and background converge to a point outside the picture.

There are many other details too numerous to deal with here, such as spacing the details so as not to leave monotonous blanks, arrangement of lighting and shadows, etc.

Turning to the exhibition we are glad to welcome back Mr. Alfred Holmes. His studies are marvels of technical perfection. Some of them are of definitely topographical interest, but his study of Lac Champex and the Grand Combin had real artistic merit, while his picture of the Pelvoux, Pic sans Nom, and Petit Pic sans Nom (reproduced in the JOURNAL), with its foreground of jagged dark ridge backed by mists boiling up from the depths, was magnificent. Of a very different type are Miss Marion Davidson's studies. Her effects depend exclusively on a fine sense of composition allied to soft enlarging

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Photo. Alfred Holmes.

PETIT PIC SANS NOM, PIC SANS NOM and Mt. PELVOUX.

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Photo. J. E. Montgomrey.

PIZ ROSEG, N.E. face.

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and 'atmosphere.' They were all of them delightful studies. 'The Dolomites' was a beautiful picture and brought out well the tone of the light limestone, the placid lake beneath and cool woodlands. Possibly 'The Lusia Pass' was her best; it is a peculiarly impressive picture with the tone mergings well rendered.

If the art of photography is to convey the essential characteristics of the scene photographed, Mr. Arthur Gardner's West Highland studies may be said to have attained it. There was no more impressive picture in the exhibition than his 'Hailstorm' (Loch Scridain, Mull). The dark skirts of hail trailing across the hills and the waters of the loch, lit by a gleam of light from betwixt the scowling clouds, conveyed the wildness, loneliness, and beauty of the Highlands.

Mr. William Bellows put in two striking studies in green tones. 'At the Solvay Hut' was the best; it would have been perfectly composed had not the figure been facing the camera. 'Below the Solvay Hut' had a suspicious suggestion of 'touched up' distance, but was a fine picture nevertheless.

Mr. Brook's pictures suffered from a slight muddiness, possibly due to over enlargement, but conveyed a good impression of height and depth.

Professor T. Graham Brown contributed an interesting set of the great Brenva face of Mont Blanc, and the Pétéret Ridge, seen from novel viewpoints (both reproduced in the JOURNAL). Though foreground is necessarily lacking, there is a fine suggestion of scale. Of non-mountain photographs we thought Mr. R. S. Morrish's 'A Fountain in Innsbruck' the best. It is most effectively composed, and the high lights and shadows well arranged, with children to lend the requisite life.

Mr. James Dawson's 'The Alphubel and the Path to Hohe-Steige, Saas Fee' is an excellent example of composition which suggests the spirit of the scenes that charm the lover of mountain scenery.

Other mountain ranges were well represented: New Zealand, Iceland, and the Canadian Rockies.

Dr. J. Monroe Thorington's Canadian Rockies were all most interesting, while Canon H. E. Newton's and Captain H. E. L. Porter's New Zealand photographs showed well the beauties of the Southern Alps. Barren bleakness was the feature of Mr. Athole Murray's Iceland studies, which was well accentuated by the cold tone of the prints.

Miss Margaret King sent in a set of hand coloured prints, but while complimenting her heartily on her work we would

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suggest that technical disadvantages render the cleverest artist incapable of doing herself justice through this medium.

Mr. J. O. Walker's 'Mont Dolent' was, perhaps, of all the pictures in the exhibition, the one at which we gazed with the greatest pleasure. There is no mountain in the Alps which photographs more beautifully, and it formed a worthy subject for the Menu Card at the Annual Dinner. Mr. Walker's other studies were all without exception fine ones.

We would like to see more portrait studies of guides, peasantry, etc. Mr. H. S. Bullock's 'Study of a Guide' was first-rate, and we look forward to seeing more like it next year.

Space prohibits mention of many more exhibits equally good. The ones we have chosen are representative of their kind, but we thank the exhibitors heartily for their co-operation and in particular Mr. Spencer. Anyone who saw him arranging the photographs will have realised how much the club owes him for his painstaking and artistic planning of the exhibition.

IN MEMORIAM.

JOHN PERCY FARRAR.

(1857–1929.)

JOHN PERCY FARRAR was born on Christmas Day, 1857. He was the second son of Charles Farrar, M.D. (Heidelberg), L.F.P.S. (Glasgow), of Chatteris, Cambridgeshire, and Helen, daughter of John Howard of Bedford.

He was educated at Köningsfeld, Black Forest, and Lausanne, Switzerland, where he learnt at an early age that facility in colloquial French and German which characterized him in later life, and one may suppose that it was then he imbibed that love for the mountains which played such an important part in his life. For a time he became private secretary to his uncle, James Howard, during the time he was a Member of Parliament. James Howard was an agriculturist in Bedford, and was distinguished for taking out patents for agricultural machines, including the first iron wheel plough; he was M.P. for Bedford from 1868 to 1874, and M.P. for Bedfordshire from 1880 to 1885. One may presume that it was in this latter period that Farrar acted as his private secretary.

Farrar's two brothers, George and Sidney, went out to South Africa in the early 'eighties as representatives of the firm of James Howard to manufacture agricultural implements, for at that time South Africa was still an agricultural country and gold had not been discovered, and later they were established there as the

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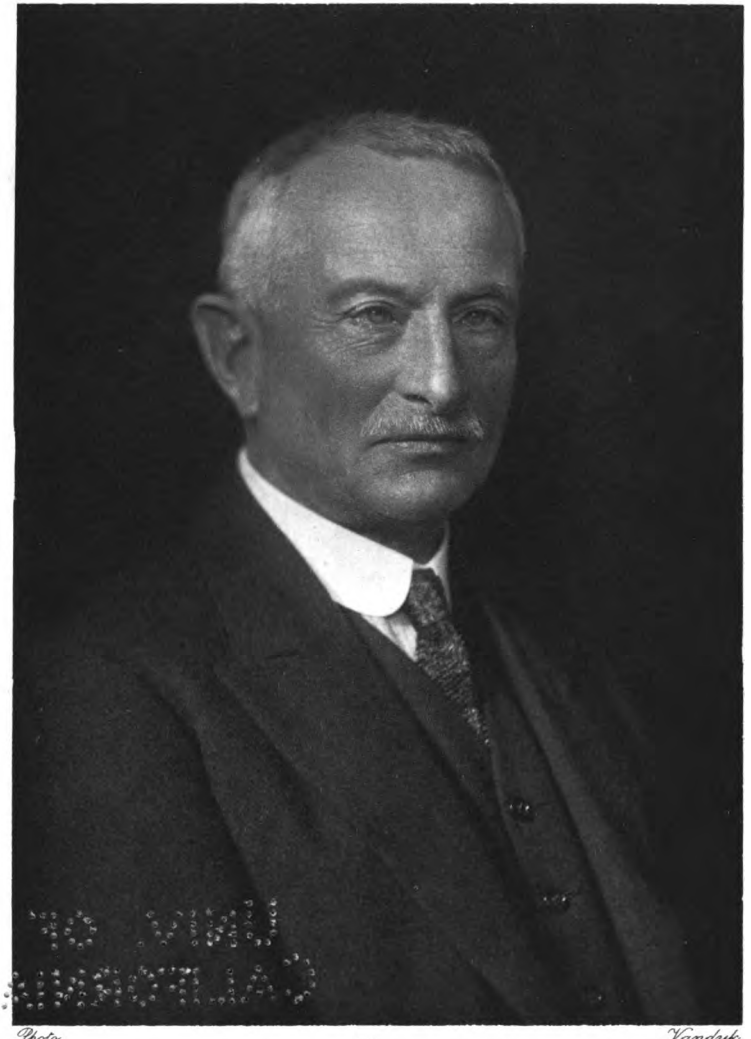

Photo. Vandyk.

J P Morgan

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firm Howard and Farrar. Here they were joined by Percy Farrar. The Farrars then were active young men, and with the discovery of gold they foresaw the possibilities of great development. They secured land and began to produce gold, and at the same time they turned their business of manufacturing agricultural implements into one for making mining machinery. They prospered exceedingly, and Farrar Brothers, as the firm became, rapidly rose to be important people in the growing colony. They were intimate with Rhodes and Jameson and all those leaders who were making the country. The eldest brother, later Sir George Farrar, took part in the Jameson Raid and lay for a time under sentence of death. Later he rose to be Prime Minister of South Africa, and was killed accidentally in a railway accident during General Botha's S.W. African campaign, 1914.

Percy Farrar was not so interested in political schemes or in high finance as his two elder brothers; when he had made as much money as he wanted, he left South Africa and travelled.

In 1899 he went to the Canadian Rockies and to Japan, and the record in the *Alpine Club Register* shows that he was busily climbing in Japan when the South African War started. He hurried back to South Africa as soon as he heard the news and took a commission in the Kaffrarian Rifles, an irregular corps raised by George Farrar. Later he became adjutant of this corps, which did good service, and it was while serving with this regiment that he was severely wounded by a bullet which passed right through his body, jarring the spine and causing temporary paralysis of his legs. He was wounded early in the day, but he kept command of his company and they fought off the Boers till nightfall, when they were able to slip away.

At the end of the war Farrar was made a Companion of the Distinguished Service Order, and was given the right to retain the rank of Captain, by which title he was since commonly known.

In 1901 Farrar was back in Europe, climbing again, and from that date to his death, except for the period of the Great War, he had an almost continuous record of climbs.

The outbreak of the Great War found Farrar climbing in the Maritime Alps, and it was on August 2, 1914, on descending to Crissolo, after climbing the Monte Viso, that he was greeted by the news that war was declared. Like many others he made his way to Genoa, but with characteristic energy he found means of arriving by devious routes at Boulogne long before the average refugee, and he arrived there just in time to see the British Expeditionary Force landing. At Avignon, on the way, he was challenged as a spy, but with the help of an old passport was able to establish his identity. Too old to fight himself, he sent his only son, his only child, who joined the Northamptonshire Regiment, and was killed, having already attained his Captaincy, in 1915. Of this great grief Farrar spoke but rarely, and the measure of his sorrow could only be

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gauged by the letters of understanding sympathy which he wrote to those of his friends who had lost their sons.

Farrar as a man: He was not tall, but sturdily built with powerful trunk and limbs. As a young man he was a tremendous goer, and even after he had passed middle-age he kept himself fit and in hard condition, so that he was able to outwalk many of his younger companions, and was capable of accomplishing first-rate expeditions even up to the age of seventy.

The most prominent of his personal qualities were his virility, his amazing vitality, and lovable disposition. He loved the game of life and he played it hard, but he liked to laugh, and he would smile in the face of any difficulty. His speech, like his character, was firm, crisp, and decisive, and his decisions, hasty perhaps, were not easily shaken. As a companion he was delightful: never dull, full of anecdotes and quaint quips, accompanied by caustic and sometimes biting remarks on people he did not love, such as politicians and time-servers. Although his temper was even on the whole, he could blaze with anger on occasion, but it was over quickly, and if he had been in the wrong he would say so at once. Perhaps he was at his best with young men; he loved them and they loved him, and he would go to any lengths to help them with advice and often with help of a more solid character. With men in trouble he was tender as a woman, and there are many who will bless his memory for kindly actions of which the world has never heard.

This interest in men was not a pose, for he was genuinely interested in them. It was a regular education to go for a walk with him, preferably up a mountain valley. He would stop and talk to all the peasants he met and would ask them their name, where they lived, whether they were married, how many children they had, and what they earned; whether they remembered so and so whom he had met there years ago. He said he had learnt to do this in South Africa among the Boers. It was certainly appreciated.

The undisguised interest he took in men made him much beloved and brought him many friends, and there can be little doubt that he was the best-known and best-loved man in the Club. Yet withal he was a keen judge of character, and if once let down by a man, he did not say much but he would watch him. He used to say: 'I don't mind being bitten once, but if I'm bitten twice in the same place, I'm a fool.'

Farrar as a mountaineer: Farrar ranks as one of the best of amateur mountaineers. He was good on rock, superb on ice, and unsurpassed as a route finder—altogether as good a man all round as ever trod a mountain. Good as he was, and he knew he was good, he did not consider that any amateur could compare in ability with a first-rate guide, or approach anywhere near the standard of his favourite guide, Daniel Maquignaz. His knowledge of the Alps was prodigious, and his climbing record shows that there was scarcely a district or considerable peak in France,

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JOHN PERCY FARRAR.
1857-1929.

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Switzerland, Austria, Italy, or Germany with which he was not familiar, and in addition he had climbed in South Africa, the Rockies, and Japan. In addition to his personal knowledge of the Alps, he had an intimate knowledge of Alpine literature, and he maintained this knowledge by correspondence with climbers of all nations. Ball's Alpine Guide was one of his bedside books.

As an exponent of the craft of mountaineering, Farrar was a master. He was eminently safe, and always declared that he was not going to be killed on a mountain; neither did he intend to allow anyone with him to be killed. He excelled in his judgment of weather conditions and the state of a mountain. He would never start on an expedition if the conditions were bad, and while younger members of his party might be fretting to be off, he would just curl up and sleep till he thought the time was ripe. The mountains meant much to Farrar; he treated them with respect, for, as he said, they never forgave a mistake.

His services to the Club: No man has ever done more for the Club, or served it more faithfully. He was on the Committee from 1883–85, and on numerous occasions as an Extra Member. He was Vice-President in 1909–11, President 1917–19, Assistant Editor of the JOURNAL 1909–19, and Joint Editor with Yeld 1920–26.

The JOURNAL is a record of his thought, action, and writings, and shows the immense amount of work he put into it as well as the intimate knowledge he had of everything to do with mountaineering in all parts of the world.

His knowledge extended to the minutest detail of mountain equipment, a fact which made him a most useful member of the Everest Committee, for which he did great service.

His idiosyncracies in dress, all of which were eminently practical, rendered him conspicuous on the mountain-side. How we loved to see him, his coat rolled up over his shoulder, his knickerbockers pinned up by huge safety pins, leaving his knees and legs bare, and his tin can dangling on the back of his sack. By his garb he could be recognized afar. On one occasion he was climbing high up near the summit of Monte Rosa, when a party passed far down below on the snow slopes, making for Italy: a shout was heard, a voice came faintly up the slopes—'Êtes-vous, Monsieur Farrar? Bonjour, Monsieur Farrar—Bon voyage!'

In 1886 he married Mary, the daughter of F. Beswick of Queenstown, who survives him, by whom he had one son, killed, as related, in the Great War.

He is survived also by his brother, Fred Farrar, of Bedford. Howard Barrett, a member of the Club who died in 1921, was his cousin.

Farrar was not ill for long. He was not feeling well about Christmas time, and was unable to go abroad as he intended. The end came suddenly, and without suffering, in the early hours of February 19.

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The Club has had in him a great Member, a great President, and a great Editor. His influence on the sport of mountaineering has been enormous; by his help the traditions and prestige of the Alpine Club have been enhanced. There are none of us who cannot but feel that we have been charmed and helped by his friendship. Although he has left us, his influence and memory will survive while the Club lasts.

G. E. GASK.

Farrar's love for and interest in the hills must have begun very early in life. To have been a boy at school at Lausanne must have attracted him to the mountains, for who with an enthusiastic nature such as Farrar's could look daily on the panorama across the Lake of Geneva without longing to explore those wonderful ranges? As Farrar's expeditions occupy *seven* pages in Arnold Mumm's *Alpine Club Register*, vol. iii, it is clear that they cannot all be mentioned here, as in most districts he left but little undone. Here follows a list of his chief ascents:

1881. Pateriolspitze, first ascent of W. peak of Stammerspitze, Äussere Ölgrubenspitze, and first ascent of N. peak.

1882. Weisshorn, Matterhorn, Dent Blanche, Rothhorn.

1883. Wetterhorn, Schreckhorn, Jungfrau traversed from Wengern Alp, Finsteraarhorn from the Studerfirn by S.E. arête, Weisshorn second ascent of W. face by a new route—a tremendous expedition with 'der Köderbacher.'

1892. Watzmann (E. face, fifth ascent), Gross Glockner (traversed), Rimpfischhorn (traversed from Adler Pass), Matterhorn (traversed with Mrs. Farrar), from Zermatt to Breuil and retraversed from Breuil to Zermatt in a single day: ascent 6 hrs. 24 mins., descent 3 hrs. 52 mins., halts 1 hr. 40 mins., total Breuil to Zermatt 12 hrs. 5 mins), Gabelhorn traversed from Arbenjoch to Zermatt.

1893. This may perhaps be best described as Farrar's *Annus Mirabilis*. Balmhorn, Altels; Blümlisalphorn, Tour Noir, Aig. d'Argentière, Meije, Barre des Écrins traversed, S. Aig. d'Arves, Meije from La Grave to La Bérarde in a single day. Mont Blanc by the Brenva Glacier, Aig. du Dru, Petit Dru; Aig. de Grépon (traversed), Dent du Géant, Aig. Noire de Pétéret, Aig. Blanche de Pétéret, ascended from the Brenva Glacier thence traverse of Mont Blanc de Courmayeur and Mont Blanc (second ascent). Dents du Midi, all nine summits in one day. Second ascent, with improvements, of S. face of the Bietschhorn.

1894. Mont Pelvoux, Pic d'Olan traversed, Meije traversed from La Bérarde to La Grave—his third ascent; Monte Disgrazia from the Forno hut, over Monte Sissone and Pizzo Pioda by S.W. face, making a new route up the latter, recrossing Pizzo Pioda to the Passo di Mello, descended to the E. to the Disgrazia Glacier, skirted the E. base of Cima di Rosso and Cima di Vazzeda to the Muretto Pass route, and reached Sils Maria in a single day. Piz Roseg, Crast' Agüzza (first ascent by S.W. face), Piz Bernina,

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Tödi, Wetterhorn and Mittelhorn, Schreckhorn, Dom, Matterhorn up and down by Z'mutt arête, first descent. All peaks were traversed except Pelvoux, Disgrazia, and Matterhorn.

1897. He climbed many peaks in the Eastern Alps. Jungfrau traversed from the Rottal to the Wengern Alp. Wetterhorn by the Hühnergutz Glacier, Schreckhorn from the Lauteraarfirn, Mönch up and down from and to the Wengern Alp; Eiger.

1898. Aig. de la Tsa, Dent des Bouquetins, Aigs. Rouges d'Arolla, Mont Collon traversed; Grand Combin traversed ascent by S.E. arête, Grivola (third ascent by N. arête); Grand and Petit Paradis, Bec de Montandeyné, Pta. Budden, Herbetet in one expedition. Aig. de Bionnassay, Dôme du Goûter, Mont Blanc ((?) third traverse of Bionnassay—Dôme arête, Mont Maudit, Mont Blanc du Tacul, (from the Col de Miage to Montenvers in a single day!) Attempt on Aig. Verte from Col des Grands Montets reaching the *Pointe Farrar*; Nord End from Macugnaga by E. face. Five peaks of Monte Rosa traversed. Lyskamm traversed.

1899. He visited Canadian Rockies and Japan.

1900. South Africa. Various peaks while on active service.

1901. Winklerthurm, Rosengartenspitze by S. ridge, Cimone della Pala by N.W. ridge, Sass Maor and Punta della Madonna, Pala di S. Martino.

1902. Dent Parrachée, Grande Casse; Pointes d'Ouilliarse, Albaron, and Ciamarella traversed. Levanna all three peaks and Levanetta. Pointe de la Traversière; Tsanteleina and Aig. de la Grande Sassière traversed; nearly all guideless.

1903. Lötschenthaler Breithorn traversed; Aletschhorn traversed, ascent from N.W., descent by N. face. Gross and Hinter Viescherhörner traversed. Gross Grünhorn, with attempt on N. arête. Finsteraarhorn traversed from S.E. to W. Dürrenhorn-Hohberghorn-Stecknadelhorn-Nadelhorn traversed. Lenzspitze and Nadelhorn traversed. Weisshorn traversed from S. to E. Dent d'Hérens from Staffelalp to Breuil. Various routes on the Matterhorn (Galerie 'Carrel' and Col Félicité). Täschhorn traversed (ascent by *Teufelsgrat*).

1904. Aig. des Grands Charmoz (traverse of all five points), Aig. Verte, Les Droites, Col des Hirondelles, Grandes Jorasses, Dôme de Rochefort, Mont Mallet, Aig. de Rochefort, Dent du Géant (N. face), Mont Blanc *via* Mont Blanc du Tacul and Mont Maudit.

1905. In the Eastern Alps. Ortler by the Marltgrat, Königsspitze, etc. Bec de Guin and S. peak of the Jumeaux.

1906. The following expeditions were guideless: Grand Pic and Pic Central of La Meije [1] (his fourth ascent). Aig. des Grands Charmoz traversed: Mont Blanc from the Col du Midi, descent by the *Ancien Passage*.

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[1] He made at least seven ascents of La Meije—mostly traverses—and the last three or four guideless.

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1907. Without guides: Lötschenthaler Breithorn traversed; Aletschhorn traversed. Finsteraarhorn by S.E. arête: Gross Grünhorn, new ascent by N. arête and first traverse.

1908. Without guides: Gspaltenhorn; Balmhorn traversed. Colle delle Loccie to Capanna Val Sesia: Sesiajoch and Parrotspitze to Gnifettihut. Traverse of all the peaks of Monte Rosa (except Nord End), descending to the Riffel (18½ hrs.) Rothhorn traversed. Breithorn by N. face.

1909. Without guides, Hinter Sustenhorn and Sustenhorn traversed: Dammastock traversed to Rhône Glacier: Gross Lauteraarhorn.

1910. Without guides: various cols, Bietschhorn ascended and descended by E. arête, Pollux by N. arête, Wetterhorn by Hühnergutz Glacier and N. ridge.

1911. Schwestern twice, Piz Bernina, Wetterhorn by Hühnergutz Glacier and N. arête (for the third time). Made a month's journey in the Canadian Rockies.

1912. Kammlijoch: Claridenstock (lower summit) traversed from Klausen Pass to Clariden Hut: Cheval Blanc.

1913. Various cols. Grand Combin traversed. With one companion ascended crest of S.E. arête of Finsteraarhorn to 13,500 ft., descending to Viesch through icefall of Viescher Glacier. Pollux.

1920. Aig. de Pélens.

1921. Wetterhorn, Strahlegg, Lauteraarjoch, Schrecksattel (W. slope), Wetterhorn, Schreckhorn (traverse), Rotbretthorn, Gspaltenhorn, Gamchilücke, Petersgrat, Lötschenlücke, Matterhorn (Breuil to Zermatt).

1922. Triglav (traverse), etc. Table Mountain, Majuba, Mount aux Sources.

1923. Wetterhorn, Ebnefluhjoch, Rotbretthorn, Lauitor, Schmadrijoch.

1924. Ebnefluh by N. arête and Gletscherhorn traversed: Grossjoch first passage: Jungfrau traversed from Guggi Hut.

1925. Cima Tosa: Presanella, Adamello, Ago di Sciora, Piz Badile, Aig. de Grépon.

1926. Mont Aiguille, Trois Pics de Belledonne (traversed), Pic de l'Etendard, Aig. de l'M, Dent du Requin, Aermighorn (E. face, S. arête), Hundshorn, Wilder Andrist, Zahmer Andrist, Dündenhorn.

1927. In the Oberland. Bad weather prevented serious climbing. (I believe that he made another ascent of the Wetterhorn by the Hühnergutz, his fifth or sixth !)

1928. Rheinwaldhorn, Pizzo Rotondo, Basodino, Bifertenstock, Tödi.

For eighteen years Farrar and I worked together on the ALPINE JOURNAL. No union could have been happier, for I cannot remember a single disagreement. I looked forward to a meeting with Farrar as one of my greatest pleasures, and I believe he enjoyed

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our conferences as much as I did. His good temper, his cordiality, his shrewdness combined with a genial appreciation and generous judgment of others, will always live in my memory, and recall Farrar as a delightful colleague and ever lovable friend.

It was not long after our union that Farrar began to do the main part of the work—and latterly he did almost all of it, though he always generously insisted that I was necessary to him. The field of the JOURNAL gradually grew wider, for Farrar had a personal knowledge of foreign climbers and a very wide acquaintance with foreign Alpine literature. He was deeply interested too in the Canadian Rockies, the Himalayas, and New Zealand, and kept all foreign climbing news up to date. He was not long in acquiring a clear, incisive, vigorous, and effective style.

Here are two specimens of Farrar's writing. The first is from his account of the ascent and descent of the E. arête of the Bietschhorn, full of a humorous enjoyment of difficulty:

'My friends huddled together, after very improperly cutting a good rope and tying themselves up again, on what I believe was a very comfortable spot, offering the greatest facilities for a quick descent in every direction. I myself remained at the other end of the rope, seated on a very narrow ledge with my feet dangling over space and my back against a very unstable rock. It was unsafe to balance oneself for a moment in order to put on any other clothes or fresh stockings, nor could one put one's feet in the sack. Under such circumstances, the best way is to stuff all spare clothes under one's coat over the stomach, and to lodge the rucksack on one's feet to minimise radiation. The snow fell intermittently all night, but the lowering clouds prevented any excessive radiation. At the same time, I should have been quite willing to undertake, in exchange for immediate transport to a warm bed, to spend my future summers at Margate, forswearing for ever the folly of mountaineering.

'My friends hailed me at intervals all night, under the quite mistaken impression that I might topple off, and malice more than once prompted me to delay my reply, so that I could measure their care for me, or possibly their anxiety not to be involved in my descent, by the increase of anguish in their tones. However I played wolf too often, so that their tones eventually partook somewhat of invective, even of abuse.

'We got off at 4.40 A.M., cold and stiff, slid over the Bergschrund in the still soft snow, and, going at a furious pace, forgot our discomforts, and were soon busy evolving fresh plans We were not sorry to get to the first water, as all we had had to drink since the previous morning was a pint of black coffee and snow. We regained camp at 7.30 to meet the warmest welcome of Sydney Gask, who had spent a great part of the night a couple of hours above the camp, watching for our return.'

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The second from his article on the traverse of Mont. Blanc by the S.E. arête (in 1893), which he wrote as a memorial of Daniel Maquignaz; a grim description of very serious work:

'I do not remember that we stopped to eat—we carried raisins and sugar in our pockets—but once, for a moment, Daniel half reeled with the continuous work—he had been leading for *fourteen* hours. We restored our leader with some wine and food, standing in our steps. About 6 an occasional downblast of wind gave us a warning of what was in store. It was still light, and once more Daniel set to work with the axe. But each step brought us more into the wind, and soon, every other minute, we heard the howl as of a thousand wolves, and, quickly jamming our axes, bent our backs in mortal fear of being blown clean away. I exchanged, now and again, a few words with the usually loquacious Baptiste, but only in the intervals could one make oneself heard. We hardly noticed the daylight vanish, for it was full moon or nearly.

'At about 10 P.M. the arête opened out to form a sort of rocky headland. I was rather keen to stop there, although the shelter was of the scantiest, as the quickly recurring blasts of the hurricane were becoming trying in the extreme. However, we faced it once more, always step-cutting, until, about 11 P.M., we could take to some rocks on the left, and climbed a broad rock couloir, which gave the leader some relief. Baptiste had for some little time been complaining that he could not feel his feet. There was nothing to be done but to stick steadily to it.

'The rock couloir ended in a snow arête, when the wind seemed to drop. Thirty yards higher Daniel halted, and, looking up in the half-light, I saw he was under a great cornice. It was just midnight by my watch. We brought up Baptiste, so that he should not be knocked over, and Daniel proceeded to flog a passage through the overhanging lip. I closed up to him, and he half scrambled, and was half pushed, through the hole, I followed, helped by the frozen rope. Almost before I could look round and see that we were on the top itself, the frightful N. gale almost beat us to the ground. Baptiste followed, and for a moment we clung to our rammed axes, gasping for breath. Daniel, as ever, the quickest to pull himself together, beckoned (the wind drowned even a shout) to get under the lee—one could not call it a shelter—of a little outcrop of rocks a few yards farther on. Round one of these Daniel flung the rope, and we huddled down on the snow; for facing that gale—even across the broad, almost level, arête leading to Mont Blanc—would have meant an accident. He and I put our feet in our sacks, regardless of the contents. We made signs to Baptiste to do the same, but he would sit on his sack and kick his heels against the snow; there was no arguing with him—one could not make oneself heard shouting. We could not eat, for one dare not take a glove off for a moment.

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'Those of you who know the desperate misery of such a night need no remarks of mine. As to you others, I only hope you may not have any such experience.

'The only part which seemed to retain any pretence of heat was the stomach, over which one fondly clasped the arms.

'All night long the hurricane continued, clouds scudding across the moon. We now and again exchanged a sign.

'There we crouched for five mortal hours, and even when broad daylight came one felt little inclined to stir and face the full force of the icy blast. However, at 5.5 A.M. Daniel and I scrambled to our feet. Baptiste asserted that his feet were frozen, and that he could not move. With a little encouragement he managed to stand up, and we fairly towed him across the summit of Mont Blanc, passed at 5.35, whence we ran down in thirteen minutes to our quarters of a fortnight earlier, the hut on the Rochers Rouges. There was at that time, of course, no Observatory on the summit, nor a Vallot hut.'

Farrar wrote many reviews and articles on Alpine nomenclature and history, including papers on old Führerbücher—all of high interest. These were, as Mumm says, 'the outcome of a gallant resolve to keep the ALPINE JOURNAL interesting during the war years.'

Many *In Memoriams* also came from Farrar's pen—all of them full of sympathetic feeling, fine judgment of character, and warm appreciation.

Farrar had at different times travelled with H. Topham, H. E. Marsh, R. Corry, T L. Kesteven, J. E. C. Eaton, C. B. R. Ellis, F. Bergne, R. Cajrati, L. W. Rolleston, S. Gask, R. W. Lloyd, W. A. Wills, Miss Frances Wills, E. H. F. Bradby, C. Wilson, J. M. Davidson, but his most frequent companions were H. V. Reade, G. E. Gask, and V. A. Fynn.

He employed at different times many different guides, but his favourites were Johann Grill ('der Köderbacher'), Christian Klucker, and, above all, Daniel Maquignaz, of whom he wrote a most appreciative and touching *In Memoriam.*

Farrar was an Honorary Member of the French, Italian, Swiss, Canadian, American, and Austrian Alpine Clubs, of the G.H.M. (of the C.A.F.) and of the Appalachian Club, as well as a member of many other mountaineering societies.

By his death a cloud has darkened the mountaineering world. Farrar was so well known, so well loved, so much looked up to by climbers both English and foreign, that probably no mountaineer was ever as widely mourned as a master and a friend. Many letters have been received from the leading Alpine clubs and from prominent foreign climbers, all breathing the same reverence for the master and the warm regard for the man. It is impossible to quote them all, but those we give will indicate the warm feeling and sympathetic regard inspiring one and all.

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From the C.A.F.

(Telegram : February 20.)

'Profondément attristé vous prie agréer condoléances plus sincères du Club Alpin Français avec les miennes pour le décès de votre ancien Président le Grand Alpiniste Capitaine Farrar.

(Signed) GATINE, Président
Par intérim.

From Dr. H. Dübi.

'BERNE,
March 26, 1929.

'I mourn deeply the premature death of Captain Farrar. It is a great loss for us all. I shall never forget the first time I met him personally. It was at the Jubilee of the S.A.C. at Luzern in 1913, where Farrar represented the A.C., and we were invited to lunch with Herr Carl Seelig at Kastanienbaum to commemorate the day when Captain Farrar with his guides saved the life of Herr Seelig, who was nearly killed in an accident in the Schreckhorn Couloir. Since then, I have been in constant communication with Farrar, who honoured me with the title of mentor on matters of Alpine history, and I may testify now that I never had a better pupil. It was at his instigation that Montagnier and I published the results in the Paccard-Balmat and other Alpine questions. It was a pleasure to correspond with Farrar, even when he was on the opposite side, and his criticisms were always loyal and frank.'

From Cav. Guido Rey.

'Captain Farrar était pour nous tous un exemple admirable de sagesse et de bonté auquel nous cherchions de nous approcher autant que possible dans nos actions et dans nos pensées à fin d'être dignes de son amitié.

'Cet exemple vivra longuement après lui parmi les jeunes alpinistes, mais pour les vieux (comme je le suis) le souvenir des heures passées avec l'incomparable maître et ami parmi les Alpes aura toujours un charme qu'on ne peut pas exprimer par des mots sans lui enlever sa poésie.'

From M. Jacques Lagarde.

G.H.M.

LYON,
8/3/1929.

'Je viens d'apprendre par Ségogne la mort du Capitaine Farrar. Cette nouvelle bien inattendue m'a causé une véritable peine, car l'amitié qu'il me faisait l'honneur de me témoigner depuis quelques années—amitié bien réciproque—m'était très chère. Malgré son âge déjà avancé, sa verdure physique, sa charmante jeunesse morale, semblait devoir lui assurer un avenir long encore.

'Je regrette maintenant plus que jamais de n'avoir pu le ren-

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contrer l'été dernier, comme je l'esperais. Le souvenir d'une première et rapide rencontre en 1924, puis de plusieurs semaines passées ensemble à Chamonix en 1926; une liasse de lettres courtes, directes, amicales, d'un ton bien personnel, plus rares depuis qu'il n'était plus "editor" voilà—tout ce qui me reste de lui. C'est un des plus grands alpinistes de la grande époque qui disparait, ainsi qu'une charmante et noble personalité. Je crois que la montagne n'a pas eu d'adepte plus fidèle que lui.'

From Howard Palmer, ex-President of the American Alpine Club.

'Although we had never met, correspondence over many years had revealed his winning nature and had kindled an intense personal regard, quite apart from admiration and respect for his great accomplishments on the peaks and elsewhere. One felt that he was a true man in the fullest sense of the word: kindly, resolute, generous, just, broad-minded, sincere.

'His personality and influence, strongly felt on this side of the Atlantic as on the Continent, was most potent in cultivating solidarity and goodwill amongst the mountaineers of all nations. We were most gratified at his acceptance of Honorary Membership in the American Alpine Club.'

From Henry B. de Villiers Schwabe, President of the American Alpine Club.

'Although I had never actually met Captain Farrar, I have corresponded with him for years. Admiration for his deeds and of his character almost amounted to reverence.

'With his extraordinary knowledge, his facile pen, and his keen interest in everything that transpired in the mountaineering world, Captain Farrar came to occupy a unique position with us over here. For some he was largely a legendary hero, for others he was a very vital personality, but to *all* his nobility of character, his tact, his sympathy, and his broad interest in the climbing fraternity was patent.

'He held a secure place in all our hearts. Our sense of personal loss is profound.'

Letters and telegrams of sympathy have been received, among others, from the following gentlemen:—

A. O. Wheeler, Hon. President, Alpine Club of Canada; T. B. Moffat, President, Alpine Club of Canada; W. S. Ladd, President, Appalachian Alpine Club; A. Gassmann, President, A.A.C., Berne; Giovanni Bobba; Gugliermina Brothers; Paul Montandon; Dr. Erb, President, S.A.C.; R. Cajrati; Victor de Cessole; Walter Amstutz; Dr. Julius Kugy; H. Lauper; Dr. A. Rudovsky, President, Austrian Alpine Club; Signor Vigna, Vice-President,

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C.A.I.; Louis Friedmann; Henri de Ségogne; Messrs. Spottiswoode, Ballantyne & Co.; etc., etc.

To one and all, nearly one hundred in number, the Alpine Club expresses its profound thanks.

The Alpine Club has had many distinguished Presidents who have made it their pleasure to use their great abilities in its service, and many excellent editors who have given much time and labour to the ALPINE JOURNAL, but none of them have surpassed Farrar in zeal and devotion. As a member of the Committee he was unremitting in his efforts to maintain the life of the Club at a high level. Whilst he never advocated reckless adventure, he always encouraged enterprise with a proper regard for safety. Courage and circumspection—daring if you will—but always with a due respect to the weather and the state of the mountain characterised Farrar's great climbs. He preached what he practised.

He had carried his study of equipment to such a point that his advice was of the very greatest advantage to the Everest Expedition, and his services were given without stint.

As Vice-President and President he never spared himself whether in the ordinary business of the Club or in forwarding the interests of mountaineering among climbing bodies on the Continent. To foreign climbers he was hospitality itself, and ever ready to interest himself in their service. It was said of Sir Walter Scott: 'Sir Walter speaks to every man as if he was his blood relation'; it might have been said of Farrar that he spoke to every climber as if he was a personal friend. As Editor he was indefatigable and his tactful skill was conspicuous, for he was successful in dealing with the most difficult of mountaineering authorities.

His death has cast a heavy cloud over the mountaineering world. Greatly do we miss him, and deeply do we mourn him. We shall never forget him. As he himself said of Daniel Maquignaz: 'A Great Comrade never dies—he only goes before.'

G. YELD.

I met Farrar for the first time in 1894, and he was one of the earliest of my intimate friends in the Alpine Club. I may therefore be permitted to add a small word of tribute to the memory of one of the most valuable members the Club has possessed. In my capacity of Honorary Secretary I came into contact with Farrar, and on innumerable occasions I have availed myself of the advice which he was ever ready to give. It was always sound and well considered, and although of a naturally masterful disposition he was still open to conviction and ready to listen to any criticism of his opinions. His keen sense of humour and sunny disposition made him a most lovable person, and to me personally his death leaves a gap which no one else can quite fill.

SYDNEY SPENCER.

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In the summer of 1907, hearing accidentally from Farrar that he had no definite plans for the climbing season, I ventured to ask him whether he would come and take George Gask and myself up the Bietschhorn by a new route from the E., about which he had talked to me. I hardly hoped that he would accept the invitation. He was a much older man, who had gone all his life with first-rate guides, and had done most of the big things in the Alps; and though he had tried guideless climbing the year before, I did not know how he had liked it. But he agreed at once, and joined us after our first fortnight. The story of that season was told in a paper read to the Club in 1908 ('A.J.' **24,** 293). The attempt on the Bietschhorn failed, from lack of time, though Farrar did it with Gask and Fynn some years later, but other good climbs were carried out; and the same party, joined occasionally by Fynn or others, were together for several subsequent seasons. Some of the expeditions made have been described in 'A Night on the Sustenhorn' ('A.J.' **24,** 660), and 'Four Days on Monte Rosa' ('A.J.' **29,** 129).

To climb with Farrar was a privilege and an education. At first, the prospect seemed a little alarming. We were quite prepared to be ordered about and overruled. But we found Farrar not merely tolerant of guideless climbers' vagaries, but always ready to consider opinions which differed from his own, nor did it take us long to realize that behind a reserved and almost forbidding exterior was hidden a simple, genial, and kindly nature. He seldom laid down the law, but one was always learning something from his vast experience. Autocratic, indeed, he could be when he believed that the occasion demanded it, and though one might chafe at the moment, one generally felt afterwards that he had been right.

His wonderful knowledge of everything that had been done in the Alps, and of the men, guides or amateurs, who had done it, made him a most entertaining companion. All readers of this JOURNAL know how thoroughly he kept in touch with foreign as well as British climbers, and how much trouble he took to obtain first-hand information about any new and notable expedition, or to clear up the history of a particular route. Wherever he went he was adding to this knowledge, aided by his remarkable power of making friends with every one he met in the Alps. No sooner had we arrived in a hotel or a hut than he would begin finding out who was there, and if he did not already know something about the climbers and their guides, he would know their friends or relatives, or what they had done in former seasons. His command of the native patois put him on good terms at once with guides, porters, and everyone else with whom we had to do.

Of his ability as a mountaineer it is needless to speak. He naturally took the lead when there was really difficult ice-work to be done, but on rocks, and straightforward snow and ice, he was content to leave it to others. Habitually abstemious, he always kept himself thoroughly fit, and his powers of endurance were remarkable. One instance of this may be given. When we started

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to traverse all the peaks of Monte Rosa from the Gnifetti Hut after a spell of bad weather, and found fresh snow in which we sank knee-deep, he insisted on going first, to keep the rest of the party in reserve, as he said, and for ten hours, with one halt of fifteen minutes, he refused to be relieved from 'snow-plugging' of the most arduous kind. We did not reach the Riffelhaus until 10.15 P.M., but Farrar, finding that Fynn could join us for one climb, insisted on being off by the first train in the morning, walked up to the Trift in the afternoon, traversed the Rothhorn to the Mountet next day, and returned to Zermatt over the Trifthorn the day after.

Mountaineering to him was not a mere pastime, but the main interest of his life. His accounts of his many great climbs were vivid and racy, yet so modest that the casual listener might not have realized that Farrar himself had been more than a 'passenger' between two good guides. But no one could discriminate more clearly between the amateur who does big expeditions so long as he is well led and looked after, and the climber, amateur or guide, who is 'a really good man on a mountain'—the highest praise that Farrar could bestow. For his own climbing companions he had a real affection, which was fully returned. Though it is many years since we made our last expedition together, we feel that we have lost a friend who cannot be replaced.

H. V. READE.

It is the Alpine world, no less than the Alpine Club, which has lost in Farrar its dominant personality. In all that concerned the mountains and the mountaineering, to which he devoted so great a part of his life and driving enthusiasm, he himself recognized no differences of country or of race. Through his work and example, and still more by the magnetism of his forceful, volatile personality, he drew together the dispersed mountaineering interests and organizations not only of Europe but of America and Canada, Australasia and Africa, to an extent inconceivable twenty-five years ago. In this way, and almost unintentionally, by his singlehearted devotion to a single sporting interest, he performed one of the most remarkable works for better international understanding achieved since the war.

In the short history of mountaineering he stands out as an original, and it may be a unique, figure. There have been great climbers, great writers and editors, great presidents. Farrar was all of these; and yet, who ever thought of him as the one or the other? In every capacity he remained always himself: to some perhaps 'Captain ——,' to others 'Percy ——,' but always 'Farrar.' And the reason for this must have lain as much in the real bigness of his personality as in its singularity. He had the quality of 'greatness': he was at once very human and individual, and also what we call 'universal.' Never was a leading mountaineer more personal, more intimately human in his relationships with other climbers, kindred or foreign, old or young. And yet he became for

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us, in his impersonal judgments and his immense knowledge, an ultimate referee, both as to the practice and as to the traditions of great mountaineering. Not that which Farrar said—which might be humorous or explosive according to his temper or shrewd calculation at the moment—but that which we felt Farrar fundamentally thought was, I think, to most of us a mountaineering criterion, of its standards of conduct no less than of its technique. In all the memories of him that return, in the countless anecdotes, in his writings and in his achievements, we can sense the same fundamental quality—an underlying but absolute standard of mountaineering principle, of the preparation, the precautions, the enterprise, the comradeship, and the self-sacrifice it demands.

It was our consciousness of this underlying, and unchanging, element in him which made his approval, however variedly shown, delightfully inspiring, and his censure (and none could criticize more devastatingly in speech or magisterially in print!) free of personal animus or the possibility of resentment. It was as impossible to suspect Farrar of one envious mountaineering thought as to think of him, ever, as older than oneself!

A typically British figure one might have said: soldierly, distinguished, straightbacked, abrupt, with all the prejudices as also the virtues of its type, with the rough humour, the impulsive initiative, the essential dignity. But so much more lay behind: a heart eternally young, a volcanic energy never wholly free of the guidance of a cool brain, and a wide understanding of humanity, such as had learned to laugh at other human beings from sympathy and not from cynicism and to express, through an entirely original blend of ruggedness, kindly malice and quizzical conventionalism, the inexhaustible generosity, even tenderness, of an essentially masculine and sensitive nature.

Courage, loyalty, hardihood, and independence in action and thought, Farrar set above all other virtues. As a keen and critical student of history, especially of military history, he had determined for himself that which an individual must learn and practise if his life is to make any contribution of value to his generation or to his race. Mountaineering he regarded as the best preparation and field of experience for a vital manhood. And so it came that of a man, or woman, who had made a bold, well-designed or original ascent he would hear no other report. Young or old, to have shown oneself a wholehearted mountaineer was enough to capture his personal interest, and his affection. From that moment all his knowledge and his inspiring help were at one's service, irrespective of nationality, age, or even deserts.

That men should pursue adventure and that young men ought to take risks was his constant theme before the war ('Too many of them creep for shelter under the beds!' was the way he put it.) After the war, and the loss of his only son, he encountered the period of reaction which followed, the inevitable 'playing for safety' of the surviving generation, with the same unswerving principle and

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impetuous example. In the pages of our JOURNAL, in the Alps, in Wales, on the Continent—he seemed to be everywhere, encouraging, mocking, advising, and, above all, understanding. Many of us have felt his influence directly. Hundreds of other mountaineers, at home or abroad, whether they knew it or not, must have profited in the same way from that which he wrote, and that which he indirectly inspired. Although he never wrote or spoke for personal effect, and jeered at the idea of being considered a writer or a speaker, the sheer manliness, the impersonal generosity, that which I have called the universality in his nature, rang through everything he said or wrote whenever his underlying convictions or emotions were stirred. And this gave him an eloquence all his own (as in his notice of his old guide, Daniel Maquignaz) of a kind which can only be described as 'prophetic.'

In a mountaineer so alive in his own time and yet so convinced of the value of high tradition, it was not a contradiction but a natural necessity that, as in his writing so in himself and his activities the spirit of reverence for 'classic' mountaineering, which he did so much to make us cherish and respect, should be combined, and contrasted, with the originality—sometimes even the eccentricities—of an exceptionally vital and individual modern mountain adventurer. In him the characteristics of the gallant gentleman, the sportsman, and the loyal chronicler were inseparable from the idiosyncracies of the very human man.

Farrar's best memorial must always remain our lively memory of himself: our ability in Club intercourse to hand on that tradition of masculine enterprise and comradeship with which he inspired us for more than twenty years: our readiness in action to reset his example—of courage to undertake in the van, of loyalty to co-operate unselfishly in line, and of generosity to acclaim, help, and encourage as we pass into the rear ranks.

G. WINTHROP YOUNG.

[To the tributes so eloquently paid, but a few lines need be added.

We could speak of the latter part of Farrar's life—of his courageous resumption of control of the London and South African business, for the benefit of his nieces, after his brother's death; of his immense post-war activities, travels, and countless personal and Club correspondences. Earlier again, there is the period of his squireship in Bedfordshire and of his and Mrs. Farrar's delightful hospitality for years, to so many of us. We could write of his hunting—he was a fine, bold horseman—of his shooting. Lastly, of his keen study of military history: he was the most accurate authority we have met on Napoleon's Eylau and Friedland operations and the immortal 'Campaign of France,' 1814.

To the ALPINE JOURNAL and to its Editor, striving to follow humbly in his great predecessors' footsteps, Farrar's loss is indeed irreparable.—E. L. S.]

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Major C. T. Carfrae.

JAMES A. CARFRAE (left).
1845-1928.

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JAMES ALSTON CARFRAE.
(1845–1928.)

A MELANCHOLY echo of a long-past tragedy has been recently sounded by the death of Mr. J. A. Carfrae, who passed away peacefully at the age of eighty-three sitting in his chair, after having attended a parish church council at Wimbledon on October 8 last. We may well say, 'May my last end be like his.'

On September 6, 1877, two English barristers set out from the Riffel Hotel at 2 A.M. with three guides, who were brothers, Niklaus, Johann, and Josef Knubel, to climb the Lyskamm, one of the giants which tower over the Gorner Glacier. As they did not return by the evening, it was supposed that they might have surmounted the top and descended in safety on the Italian side of the mountain.

But Mr. Carfrae, himself a no mean climber and a member of the Alpine Club, who was staying in the hotel, was not satisfied; so he started with three guides, one of whom was a fourth brother of the Knubels, to ascertain what had become of the party, and he discovered the bodies of the five unfortunate men lying on the Italian side of the Lysjoch under the arête from which they had fallen some thousands of feet. The circumstantial evidence pointed to their having approached too near to a dangerous corniche which had given way, and since then climbers have taken extra care to give corniches a wide berth.

But it was not the fact that Mr. Carfrae happened to be the first to reveal the disaster which had taken place that made him remarkable, though his name became prominent at the time. It was the character of the man. He was eminently one who displayed that charity that thinketh no evil, a man who carried his goodness without being what schoolboys call 'pi,' there was no sanctimoniousness about his Christianity. His evangelical upbringing and natural bent led him to support all kinds of good causes with his sympathy and practical aid. A list of them would include the British and Foreign Bible Society, the Police Court Mission, the Glenvyvian Miners' Mission, the Chinese Bible Women's Mission, the Society for Prevention of Cruelty to Children, etc., for he was ever ready to succour his neighbour.

At the same time a more joyous personality never existed, and those of us who knew him will remember for many a long year the flash of his merry blue eye, and his boisterous laugh whenever a joke was toward. High spirits well became that sturdy little figure which never thickened with age, nor grew stiff, and which was so adapted to the athletics which he enjoyed and practised to the last. Elected to the Alpine Club in 1874, he became a distinguished member, and always attended the meetings of the Club. An oarsman, he rowed on the river in the last year of his life. An original member, and one of the founders of the Wimbledon Skating

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Club, and a prominent skater in his day, he skated on Wimbledon Lake the winter before last when, for an all too short time, the ice bore. No one would have dreamed that this active and vigorous man with only a few silver threads in his bushy hair and beard was fourscore years of age, for his strength was not labour and sorrow, but still green and flourishing.

Although he lived nearly seventy years at Holme Lodge, Wimbledon, there was no stagnation in that prolonged residence. You could not but be cheerful in his presence, as he radiated friendship and loving kindness. Such a character is not easy to describe to others, though one may feel its influence in the living soul. David Grayson comes near it when he says, 'Goodness is uneventful. It does not flash, it glows. It is deep, quiet, and very simple. It passes not with oratory, it is commonly foreign to riches, nor does it often sit in the seats of the mighty; but it may be felt in the touch of a friendly hand, or the look of a kindly eye.'

GILBERT COLERIDGE.

GEORGE EDWARD WHERRY.

(1852–1928.)

GEORGE EDWARD WHERRY, consulting surgeon to Addenbrooke's Hospital and Hon. Fellow of Downing College, Cambridge, died in August last at the Monte Rosa Hotel in Zermatt—among the mountains in which he delighted, and in the house which had become almost a second home to him.

Born in 1852 at Bourne in Lincolnshire, he had a distinguished medical career and in 1874 was elected House Surgeon to Addenbrooke's, a coveted post. For forty-one years he served the Hospital and the University. From 1884 to 1911 he was University Lecturer in surgery. He retired in 1915, on account of age, and was elected honorary consulting surgeon. From 1915 onward, until his resignation in the year before his death, he was a most efficient and popular supervisor of the University surgical examinations. During the war, as a colonel, he continued to do brilliant and devoted work for the wounded. Of the honours which came to him during his professional life, probably that which gave him the greatest pleasure was his election to an honorary Fellowship of his College. The spontaneous testimonial and dinner given in his honour by his University examining colleagues upon his retirement in 1927 were significant of the affectionate esteem in which he was held. At this dinner his speech, full of humour and literary reminiscence, was characteristic of his original personality.

All that he wrote, even his medical writings, demonstrates the same cultivated and almost whimsical interest in the rare, the forgotten and the curious. His 'Alpine Notes and the Climbing

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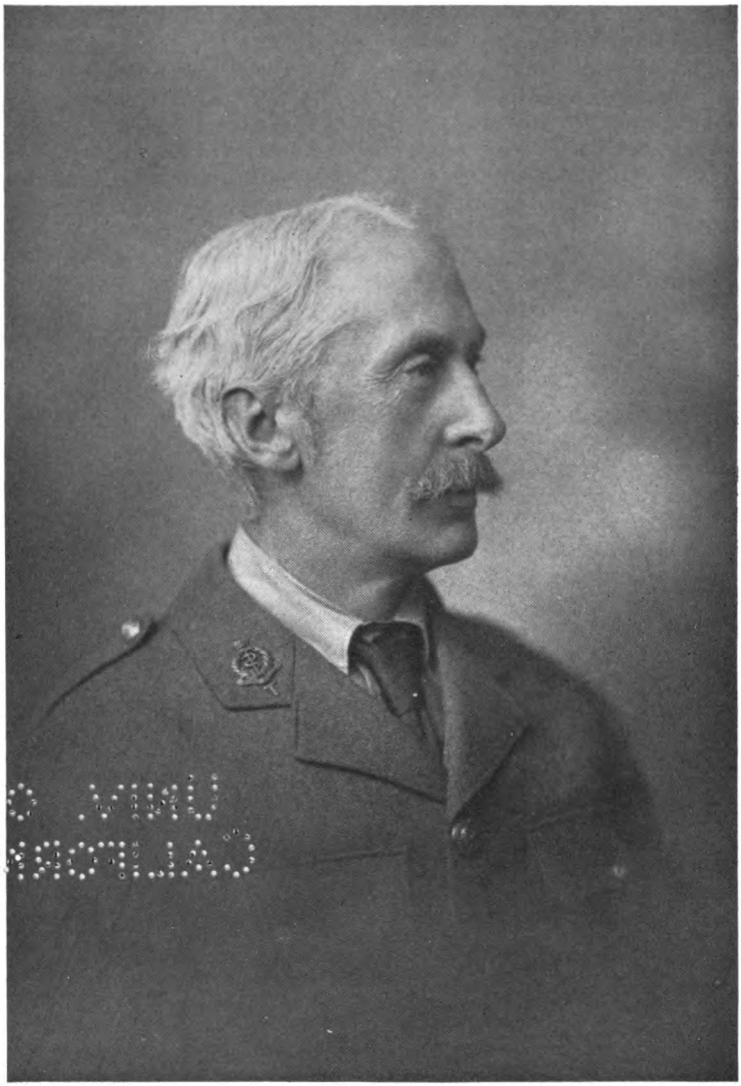

G. E. WHERRY.
1852-1928.

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Foot' (1896) is well known. In 'Notes from a Knapsack' (1909) he writes again not only of mountains but of 'Tree-climbing,' 'A Climb on Stonehenge,' 'Why both Legs are of Equal Length,' 'The Horns of Animals' (a favourite topic), 'The Touching Mania,' 'Tongue-swallowing,' and so on. Whether it was a sunrise ascent in the Alps, an Alpine flower or insect, the Ears of Buddha, or Rings under the Eaves of old Houses, the subject would be pursued in his notebooks with the same quizzical enthusiasm, and illustrated with the same suggestive pencil. For several years he was accustomed to publish an account of his Swiss wanderings, locally. He contributed to the ALPINE JOURNAL, and it may not be necessary to recall the dignity of his final appreciations of a number of his —often notable—climbing friends.

Of the Alps, mountains and mountaineering, he was a lifelong devotee. There were few seasons, from the early eighties to the year of his death, when he was not to be met somewhere among them, in Switzerland or Great Britain. A man happy and constant in his friendships, who relished wit and good company, he enjoyed every climb, the more for the friend who made it with him. For a number of seasons he climbed with Aston Binns, who was killed on the Charmoz in '98, with M. A. Bayfield, a great scholar and one of the finest of climbers, and with A. D. Godley. Those who may have seen him climbing with Godley during their later years of close companionship will never forget the impression: both tall, reserved, gentle and yet alert, alike and yet unlike; exchanging at slow intervals the mere hint or savour of some quip or recondite allusion; accepting each other's hits and apt quotations with scarcely a twinkle of the eye to disturb their seeming gravity. He was only unhappy in that it fell to him to survive all his Alpine comrades, Binns, Bergne, Bayfield, Godley. Writing of the death of Aston Binns, he says: 'This season has been the most disastrous in my recollection, except that of 1882, when Balfour and Penhall lost their lives . . . Penhall was a pupil of mine, and Balfour was one at whose feet I sat in reverence.'

A runner in his early years, spare and active and with a raking stride, there were few corners of the Western Alps in which he had not climbed or rambled. To mention but a few seasons: With his constant guide, Aloïs Kalbermatten (whom it was like him to rename 'Hercules,' and his brother 'Quinbus Flestrin'), in '91 he crossed the Mischabeljoch, the Alphubel, the Südlenzspitze, the Nadelhorn, the Laquinhorn, and the Rothhorn. In '92 the Matterhorn, the Ober Gabelhorn, the Jungfrau, the Trifthorn and the Lötschenlücke—with attempts, defeated by weather, upon the Rothhorn, the Bietschhorn, and the Dru. In '93 the Dent Blanche, the Weisshorn, Mont Blanc from the Aiguilles Grises, the Dru, the Aiguille Verte, Col Durand and the Furggjoch. In '94 in Dauphiné his expeditions included Les Écrins, La Meije and the Grande Aiguille. In '95 Monte Rosa from the Lysjoch, the traverse of the

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Matterhorn and the traverse of the Charmoz. And these ascents do not exhaust the list of climbs and high Alpine wanderings made in any one of these seasons with other guides, with his family, with friends or alone.

But he could be as content down by the lakes or in the valleys as upon glaciers or difficult rocks. By scientific training a quick observer of nature and a tolerant critic of humanity, he had also the artist's feeling for beauty in line, colour and movement. Wide reading had made of his mind a storehouse of illustration. He could be as happy, therefore, with his thoughts alone as in conversation. And, as a result, his talk had much of the quality that belongs to a good essay-writer. It seemed inevitable that Charles Lamb should be his favourite author. He wrote about him; and was himself one of the founders, and the first chairman, of the Cambridge Charles Lamb Dinners. Not only upon the occasion of his presidency, when he spoke admirably in Lamb's manner, but in his usual fashion of thought, and its expression, a sympathetic likeness to the essayist may have suggested itself to many of us.

His friend, Sir Charles Ballance, wrote of him in the *British Medical Journal*: 'I am convinced that had Wherry been attached to a London Hospital his character and attainments in general learning would have won for him a high position in the profession of surgery. But Wherry was an English gentleman who played the game of life manfully. . . . He was shy, reserved, gentle, self-effacing and affectionate. The fairy queens that ruled his life were not the busy elves, gain, fashion, pleasure, power. . . . He let them go "without one envious sigh, one anxious scheme" . . . He was a charming host; and his conversation, punctuated with wit and wisdom garnered from many sources, was delightful to listen to. Seldom I think he was conscious of quotation from prose or poetry. His memory was so good that the illustration of an argument or a jest in this way came naturally to him. Well, for me Lycidas is dead, and I am a better man since I have had the privilege of claiming Wherry as a friend. Some men are remembered less for what they have done than for what they were.'

The tall, distinguished figure, the generous courtesy, and the quickly kindling enthusiasm for all things that had to do with mountains—or men who climbed them—will be missed in the two homes of his choice, Cambridge and the Alps.

He served on the Committee of the Alpine Club from 1910–12, as well as an Extra Member on several occasions.

G. W. Y.

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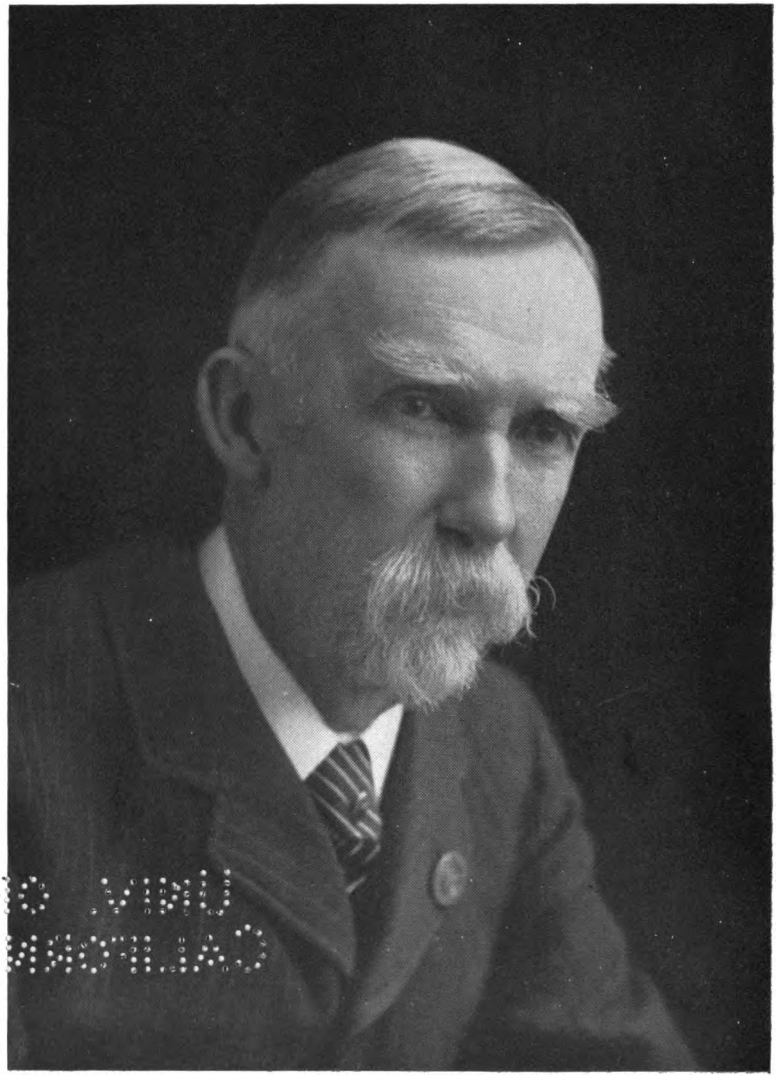

ALEXANDER B. W. KENNEDY.
1847-1928.

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ALEXANDER B. W. KENNEDY.

(1847–1928.)

SIR ALEXANDER BLACKIE WILLIAM KENNEDY, F.R.S., LL.D., whose death took place on November 1, 1928, was a man of great versatility. To the public he was chiefly known as an engineer of remarkably varied experience, and as one who had attained the highest honours of the engineering profession.

Born at Stepney on March 17, 1847, he was the eldest son of the Rev. John Kennedy, D.D., his mother being a sister of John Stuart Blackie, the well-known Professor of Greek at Edinburgh University.

He was educated at the City of London School and the School of Mines, Jermyn Street, and at about the age of 16 began his association with marine engineering by becoming a pupil with a Thames-side firm of marine engine builders. He was subsequently employed at Palmer's on the Tyne, where he was one of the first few to design and help build compound marine steam engines.

He then went to Leith as engine designer, and, after a few years of consulting practice with a Mr. Bennet at Edinburgh, he ceased his connection specifically with marine engineering.

While working in Edinburgh in 1873 Kennedy was asked by the editor of *Engineering* to go to the Exhibition at Vienna, where he reported officially on the engineering exhibits. It was this first opportunity of seeing the Alps that brought him back to them so often afterwards.

In 1874, at the age of 27, he was appointed Professor of Engineering at University College, London, where, by adopting new methods of teaching and of technical analysis, he founded a method which has extended generally over this country and to the United States. His great work as an engineering teacher was the forming of an engineering laboratory, an adjunct then new to this country, and one that helped, more than anything else, to indicate the importance of accurate knowledge of strength of materials and of results of tests on plant.

He carried out many researches in this laboratory, translating some and writing other works for the benefit of his students. Kennedy's students loved him. He was almost as young as many of them, and when they came up against unsolved problems he and they together discovered ways of working them out. There has seldom been a professor at any college who has been held in such respect and admiration by his students as Kennedy. His charming manner, total absence of conceit, willingness to help, and above all his clear and lucid lectures endeared him to all. All his life he has shown to fellow-engineers, as well as to students, a tolerance creating for him a wide circle of lasting friends.

During the latter part of his time at University College he was allowed to carry on consulting engineering, and started in this way to be called on for advice by all kinds of clients. This field

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seemed to offer so much greater scope for his abilities that in 1889 he left University College and started in Westminster as a consulting engineer. About that time the electric-lighting era was beginning in earnest, and he built up a very extensive practice as a consulting mechanical and electrical engineer. His services were enlisted in the construction of some of the earliest, as well as some of the later, electric-light-power undertakings throughout Great Britain and then overseas. He advised on and undertook the electrification of tramways and of suburban railways.

He was appointed by Lord Goschen a member of the Belleville Boiler Committee in 1900, he was a civil member of the Ordnance Board since June 1909, and he served on Lord Parker's Committee on Wireless Telegraphy in 1913, and was chairman of the Ministry of Transport's Committee on Electric Railways in 1920. He was widely employed in arbitration cases because of his faculty of absolute fairness, and because in all his long professional career his code of professional conduct was invariably so high.

Kennedy received his knighthood in 1905, and held honorary degrees from the Universities of Glasgow, Birmingham, and Liverpool. He was President of the Engineering Section of the British Association at the Oxford meeting in 1894, of the Institution of Mechanical Engineers in 1894–95, and of the Institution of Civil Engineers in 1906. He was elected a Fellow of the Royal Society in 1887, and was created a Pasha by King Hussein in 1924.

During the war he worked for the Ministry of Munitions in several important capacities, and he acted as chairman of some committees. He was intensely desirous of bringing home to those of his countrymen who had not seen them the extent of the ravages and destruction wrought by the war on the Western Front. To this end he gave several lectures, illustrated by admirable photographs taken by himself, and these appear in his book, ' Ypres to Verdun,' published in 1921.

It was a remarkable proof of Kennedy's energy and intellectual curiosity that at the age of 75 he undertook the exploration of Petra. This involved extreme fatigue, and indeed nearly cost him his life, but it bore fruit in what is probably the most complete work on the subject to date. This work is illustrated by photographs taken by himself.

Kennedy became a member of the Alpine Club in 1895, but had started wandering in the Alps about 1875. From 1878 onwards he was a fairly regular traveller in the Alps during his summer holidays, and his records show that his chief recreation was to wander from valley to valley over passes and occasionally to take a peak on the way. In his qualifications for membership, amongst a lot of passes and smaller peaks, he had then ascended the Aiguille de la Tsa, Aiguilles Rouges d'Arolla, the Zinal-Rothhorn, Mont Blanc de Seilon, Petite Dent de Veisivi, Mont Collon, and the Matterhorn. After his election in 1895 his wanderings were even more

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regular than before, and he covered districts from Tyrol to Dauphiné. He served on the A.C. Committee, 1897–99.

In 1918 Kennedy read a paper before the Club (see 'A.J.' **33**) on 'The High Level Route.' This was illustrated by slides of his own and of Mr. Spencer, and was a very useful *résumé* of the variations of the route from the date it was first talked of.

In 1914, when returning from the Alps to England by road, he was stopped at the German frontier and had to go back into Switzerland. He managed to get through the Italian frontier, without his car, to Genoa, travelling thence by sea to England with many other Alpine travellers who had not been able to get home before the declaration of war. The car was eventually got out of Switzerland into Italy and was shipped home some months later.

After the war his visits were less regular, and owing to failing health he was not able to climb or even walk far uphill. In 1922 he motored over the Alps with Mr. Douglas Freshfield to visit Cav. Vittorio Sella at his home at Biella. Mr. Freshfield describes an incident this visit involved at the frontier of the Little St. Bernard, because the Prefect of Turin had issued some new edict concerning motor-car *triptyques*, affecting this province. They were allowed, however, after much persuasion to proceed to Courmayeur, where Kennedy reluctantly addressed a firm remonstrance, signed with all his qualifications, both engineering and otherwise, to the British Ambassador at Rome. As a result, within twenty-four hours he received an order allowing him to go where he liked, and the frontier officials thereafter addressed him as 'Excellenza.' This, of course, was before the days of the present dictatorship.

Kennedy's interest in mountaineering took him also on very many occasions to the country of his ancestors, and he had a very intimate knowledge of and a great admiration for the mountains of Scotland.

He was an Alpine photographer of the first order, as the pages of the JOURNAL show, and the records that he took of his various journeys in the Alps and in Scotland were always faithful representations of what he saw. The same characteristic that applied to his engineering work showed itself in this work, in so far that there was never a failure of any one photograph and that every plate was exposed correctly, and every picture could be looked at with pleasure.

In 1902 he edited a new edition of A. W. Moore's 'The Alps in 1864,' collecting a number of photographs from members of the Club and using many of his own to illustrate Moore's text. This was a valuable contribution to Alpine literature brought up to date in the sense that nomenclature was corrected to conform with later maps. Kennedy made special visits to the Alps to take photographs of views described by Moore.

Kennedy was an amateur musician of taste and enthusiasm. As a young man working in Newcastle he conducted a choir of several hundred people, singing himself frequently. He was presented with a *bâton* by this choir as a mark of their appreciation. In later

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days he sang with his wife, and took pleasure in going through operas from beginning to end. He was a friend of Joachim when the latter lived at Campden Hill. He was instrumental in getting up concerts at which Joachim played after the Saturday 'Pops' had come to an end.

His musical evenings at the Albany, especially during the war, became well known, and were kept up specially to soothe the nerves of the older folk who were at work all day. He played the violin himself, and in earlier days took a part in chamber music. He was the proud possessor of one of Joachim's *Stradivarius* violins, which was often used and played on at the musical evenings referred to.

He was held in great affection by his many friends at the Club and at the Athenaeum, and he will always be specially remembered as a man with most varied interests and capacities, capable invariably of becoming really well informed on any new subject which he took up.

He married, in 1874, Elizabeth Verralls Smith, eldest daughter of Dr. William Smith of Edinburgh. He had two sons and one daughter, all of whom survive him.

S. B. D.

HENRY JAMES LAWES ARNOLD.

(1854–1928.)

Henry James Lawes Arnold, who died at Cromer on June 13, 1928, and is buried at North Creake, Norfolk, was a true lover of the mountains. I met him first at Belalp in 1899, and did some climbs and expeditions with him. He became a member of the Club in 1904. Among his climbs were the Aletschhorn, Schreckhorn, Mönch, Eiger, Jungfrau, Dom, Dent Blanche, Matterhorn, and Mont Blanc from Courmayeur.

One who knew him well says: 'He never tired of talking of his dear mountains; he carried the mountains into all his daily life, and many a lesson he has been able to give and teach on the mountains he knew and loved so well.'

He was a keen and clever photographer and had the gift of catching the humorous side of things, and could give a delightful lantern lecture on his Alpine experiences.

The *Norwich Diocesan Gazette* says:

'News of the death of Canon H. J. L. Arnold, which took place on June 13 at Cromer Cottage Hospital, will bring much regret to the Norwich Diocese, and especially to Yarmouth, East Dereham, and North Creake. A Foundation Scholar of Pembroke College, Cambridge, he took his B.A. degree (Sen. Opt.) in 1877, and proceeded to his M.A. degree in 1880. Ordained deacon in 1881 and priest in 1882 (Diocese of Chester), he in the former year took a curacy at Tarporley, where he remained five years. He then accepted a

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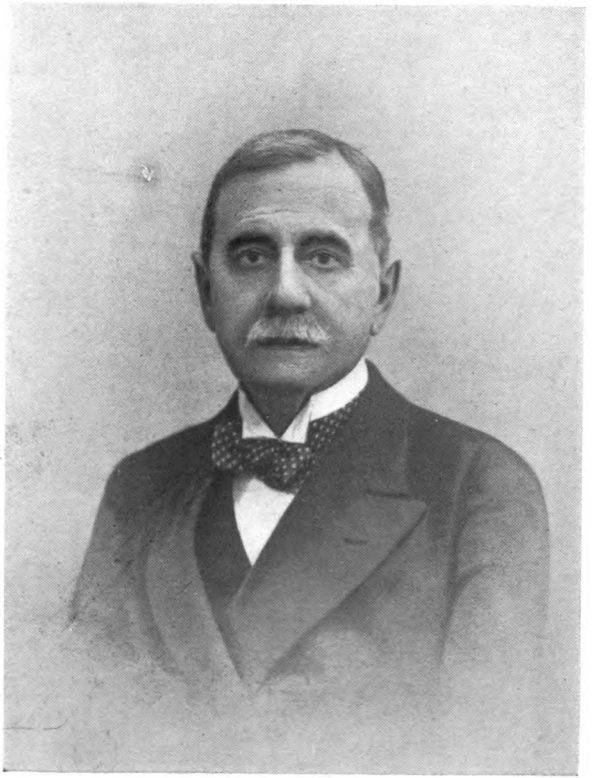
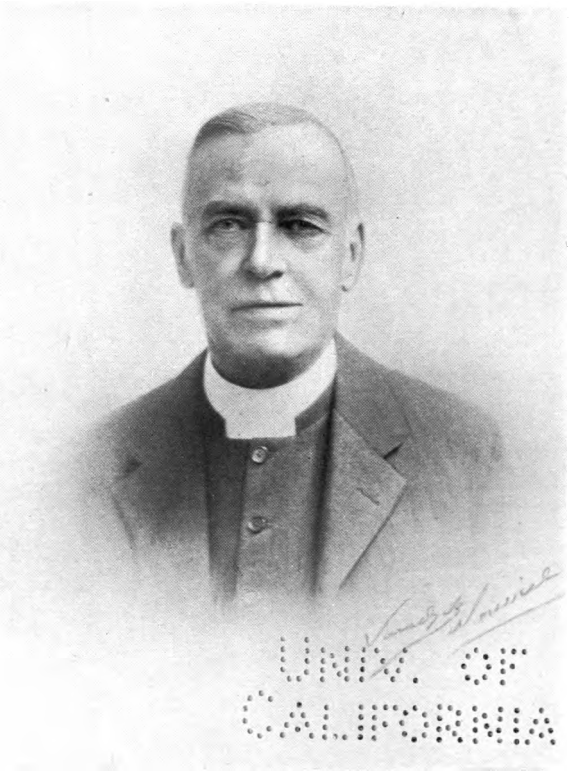


T. MEARES.
1855-1928.



HENRY J. L. ARNOLD.
1854-1928.

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curacy at St. James', Great Yarmouth, whence he removed in 1888 on the presentation to him of the vicarage of East Dereham. There he remained till 1911, when he proceeded to his final charge, that of the rectory of North Creake. His Canonry of Norwich Cathedral dates from 1902. The last two years of his life had been overshadowed by illness. In his prime he was well known as a mountaineer, and every townsman of East Dereham, who knew him well and greatly esteemed him, will agree that he was endowed with a corresponding vigour of mind and character.'

G. W. L.

THOMAS MEARES.

(1855–1929.)

THOMAS MEARES died in London at the age of 74 on February 3, 1929, after a short illness. He did not become a member of the Alpine Club until 1908, but he must have been qualified nearly twenty years earlier as he began climbing in the Alps in 1884, and had seldom if ever missed a season until after 1914. He went out again several times after the end of the war, but in 1923 found that he was no longer fit for active climbing. After that he made long winter tours in South Africa, India, and South America, and his diary shows that he greatly enjoyed a glorious view of Aconcagua and other peaks in the Andes. He had actually planned and booked his passage for a fourth tour this year, but it had to be abandoned. He was probably not a great rock climber or a leader on big expeditions, but he was a very strong walker and had made many ascents and crossed very many passes in the Central Alps, some of them several times. In his earlier years he was generally accompanied by the late Mr. C. H. Townley. He knew the Highlands well and was elected in 1895 to the Scottish Mountaineering Club of which he was a Vice-President from 1922 to 1925, and he seldom missed an Easter Meet of that Club amongst the hills he loved so well.

By profession he was a Solicitor. After being educated at a private school he was articled to the well-known firm of Beale & Co. of London and Birmingham with whom he remained to the end, having become senior partner in 1914, and as such he took an active part on behalf of the Midland Railway Company in the arrangements for the formation of the London Midland & Scottish Railway Company. Notwithstanding his busy professional life, he undertook munition work at nights during the war, and had a narrow escape on one occasion as his mate alongside of whom he had been emptying shells for some weeks was killed by the explosion of a shell a few days after Meares had been transferred to another department.

He was a strong churchman and a man of high ideals, and his loss is deeply regretted by many friends and companions in the Alps and the Highlands.

G. A. S.

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CHRISTIAN KLUCKER.

(1853–1928.)

On December 21, 1928, Christian Klucker, following his invariable custom, summer or winter, of wearing no overcoat, but *per contra* carrying a walking-stick, left his home at Fex and walked down to Sils Maria. He called on his friend, Herr Kienberger, at the Hôtel Waldhaus *en route* and complained of feeling slight heart trouble. He stated that he would see the doctor. On arrival in the village, he asked for a cup of tea in a restaurant, but before consuming it, quietly and painlessly expired. He was buried in the little churchyard of Fex on December 24. The whole Upper Engadine was represented at the funeral, the coffin disappeared beneath a mountain of wreaths, while deputations from Basle, Zürich, Coire, and other towns attended. Snow finches, the rare winter visitors he loved so well, circled over Klucker's grave.

A very wise and learned friend, the late Sir Edward Davidson, once warned the writer against the use of superlatives. Yet I cannot help thinking that in speaking or writing of Christian Klucker, even a Davidson might acquiesce.

Klucker was far more than the *doyen* of first-class guides. This 'grand old gentleman,' to quote the last of many comments made on him in the Alpine Journal, could have filled with distinction almost any rôle in life. He was the Sils schoolmaster, latterly an inspector of schools; 'Papa Klucker' was a constant and affectionate cry raised by children.

A first-class public speaker, an expert in map-reading and the use of the compass in days when guides and some amateurs were wont to treat such articles with contempt. An ardent lover and collector of books, with an extraordinary knowledge of topography and Alpine History ancient and modern, I feel that the Journal has lost in him one of its most distinguished assistants—'the *fine fleur* of professional culture,' abstemious to a fault, in general knowledge and education surpassing all guides and most others. An excellent geologist, botanist and biologist, there was hardly a limit to his versatile accomplishments.

His name was omitted from a somewhat ambitious and unequal work for the obscure reason that he belonged to Eastern Switzerland. Not many of the Pioneers of the Alps could show a record like his! In a career commencing in 1874 no less than 44 first ascents and 88 new routes—in all parts of the Alps, Dauphiné to Dolomites, but of course largely in the Pennine, Bernina and Rhaetian Alps—stand to his credit. He accompanied Whymper to the Canadian Rockies in, I think, 1902.

Without a superior as guide or mountaineer, a born leader with humorous and epigrammatic insight into his companions' psychology and powers, his equals might be counted on less, perhaps, than the fingers of one hand. Many of us are content to hear of

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in steter Verehrung von

Chr. Klucker

Februar 1928

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our best expeditions first repeated again and again in half the time, finally spoken of with contempt. Not so, Christian Klucker. He vied with the younger men in modern desperate climbs; at the age of 74 he was accomplishing new routes; two months before his death he led—was there ever an expedition in which Klucker did *not* lead?—in the climb of Punta Rasica (without any rope-throwing), Cime del Largo traverse, Ago di Sciora, all first ascents of his thirty to forty years ago.

He towered, as Piz Badile over Bondo, above all Engadine guides past and present, with Martin Schocher an honourable second. Severe judges such as Edward Davidson, with his unrivalled experience of the best professionals of two generations, have bracketed Klucker with Josef Pollinger and Franz Lochmatter as the best step-cutters ever known. The precipitous slabs and ridges of the Mont Blanc Aiguilles and the Bregaglia; the crumbling walls, the decaying chimneys of Rhaetikon or Dolomites will acknowledge no superior cragsman. Small and thickset, short in the reach but gifted with enormous strength, his grace on rocks was extraordinary, while on ice, like Alexander Burgener, he seemed to dilate into a very giant of power.

Of his greatest feats in the Western Alps, I would that Percy Farrar could have written. First there comes the conquest of the great Pétéret ridge of Mont Blanc with Rey and Güssfeldt, the N.E. face of Lyskamm, the first Wellenkuppe-Ober Gabelhorn traverse, and a remarkable attempt alone with Norman Neruda on the N.E. face and N. arête of the Dent Blanche—defeated by iced rocks, July 31, 1890. In the Central Alps, we recall the N. face of Piz Roseg, the N.E. face of Piz Bernina, both alone with Norman Neruda; the N. face of Piz Tschierva; the southern face of Crast' Agüzza and a remarkable expedition on Monte Disgrazia, covering much new terrain, Forno to *Sils*, both alone with Farrar, but most remarkable of all, perhaps, stands the only descent of the Fuorcla Tschierva-Scerscen (*Güssfeldtsattel*). With a party conspicuous for its weakness, he cut down, alone and unassisted, the fearsome northern slope. Each time that Klucker came to the end of the rope he hacked out a large platform, turned and remounted the slope, let his companions down on the rope, redescended and resumed his cutting, till in five hours, equivalent in his case to an ascent as well as descent of the entire pass, he had brought his almost helpless party safely and magnificently to the base of that formidable ice curtain, in the ascent of which the first party had expended two days!

The great north walls of the Bondasca and Trubinasca Glaciers recall his double ascents of the Colle del Badile and Badilet, the fine climb of Punta di Trubinasca, his ascent and descent of the gloomy Cengalo couloir, his conquest of the Colle dei Gemelli and last, but not least, his solitary and tremendous reconnaissance of the 'awful northern precipice' of Piz Badile.

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In the Forno-Albigna, among his innumerable exploits, none were greater than the double traverse of Torrione del Ferro's eastern arête, alone with Herr Rütter, a twenty-hour new expedition at the age of seventy-four!

In the Silvrettas, we recollect the double traverse of the Gross-Litzner and Gross-Seehorn, while in the Dolomites stands out the N. face of the Fünffingerspitze, or actual second ascent of the mountain.

Yet with all his dash, with all his almost matchless skill, there was no more careful climber. He was master of the mountain as he was of his party. The great peaks' hidden dangers were as an open book, easily read, to him. No risk, humanly to be avoided, was run by him. He led his party to victory, never towards defeat, far less disaster.

'Since 1874 I have had the luck to climb every summer and winter in my beloved mountains, and never once in all these fifty years, has a serious mishap occurred. No search parties have had to be called upon, and, although I have traversed many difficult glaciers, I have never had both feet in a crevasse! Now I am seventy-two years old and perhaps twilight is approaching.'

So wrote Christian Klucker to me more than four years ago. That 'twilight' never approached: alone, as he had lived, save for countless friends and admirers, his unconquerable spirit met the end he would have desired. For the rest—let it stand as the epitaph of a great, of a deathless, Mountaineer.

E. L. S.

[Other portraits of Christian Klucker will be found in 'A.J.' **35**, 262 and **37**, 142.]

NEW EXPEDITIONS, 1928 (1927).

Mont Blanc Group.

AIGUILLE NOIRE DE PÉTÉRET, 3780 m. = 12,402 ft. By the N.E. face. August 7, 1928. Signor G. A. Rivetti, with Adolphe Rey and Alphonse Chenoz.

At 02.45 we left the Gamba Hut. After crossing the bergschrund by the Glacier du Châtelet, which was all hard frozen snow and ice, we reached the Col dell' Innominata at 04.25. At 04.50, after having roped, we rushed as quickly as possible down the couloir leading to the Glacier du Fresnay. At 05.45 we reached the other side of the glacier just under the Dames Anglaises. Having discarded the idea of going up towards the Central Col and traversing afterwards towards the South Col, we thought that, given the early hour (05.50), it would not be too dangerous, from

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falling stones, to go up the couloir leading to the South Col.[1] After some not too difficult slabs, at 06.55 we reached the col to the left, N., of the little knob on one side of it. We then considered whether it were possible to go up straight to the N. shoulder of the Aiguille Noire. The result of our study was against this plan, and we had, therefore, to try and find another way. This was clearly indicated by a broad ribbon of hard ice, which, after having crossed the large couloir on the Brenva side, extends very nearly as far as the E. shoulder.

At 08.00 a start was made. From the col we went down about 35 ft., and afterwards, going further to our right, we went over a sort of ridge dividing in two parts the great couloir leading down towards the Brenva Glacier. Using the spare rope for about 15 ft., we descended a little gully, and afterwards, still descending, always keeping to the right, another 60 ft., again using a doubled rope. Afterwards we traversed horizontally along a rib of rocks for about 75 ft., attaining at the end the other side of the big couloir. From the above-mentioned ridge we had descended in all about 120 ft.

Adolphe Rey, who led during the whole climb, with that ability which has now no need to be demonstrated, cut steps in the ice of the large couloir, and I held the rope while Chenoz kept an eye above, where one now began to hear stones flying down. With the good steps cut by Adolphe Rey we quickly got on to the other side, and at 08.30 were on the right bank of the couloir. As quickly as possible we climbed up slabs leading us on to the large ice-ribbon mentioned above. The sun was already high and stones began to fly down either towards the N. or the S. couloirs of the Dames Anglaises. Other stones went over us, passing whistling over our heads, and dropping on to the glacier below. Our comparative safety was due to the fact that the side of the mountain is so steep that the stones, hitting the wall well above us, ricochetted in semicircles above our heads only to plunge far below on to the glacier.

There was only one thing for us to do: we had to hurry and at the same time be very careful. Everything was rotten under our feet and, before finding a good handhold, three or four had to be discarded. Rey, with the only axe we had with us, cut steps in black ice. We moved one at a time, while the others paid attention to the rope. This traverse lasted from 08.30 till 10.30. At a certain spot during this traverse we saw a rope-ring marking the beginning of the retreat of a party which had attempted the climb some years ago.[2]

At 10.30 we were all united in the gap under the N. shoulder. Rey was anxious about this point and kept repeating 'Il faut aller voir,' although he was quite sure it *must* go; otherwise the descent would not be a comfortable affair.

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[1] See illustration, *A.J.* **40,** facing 65.

[2] (?) July 31, 1927 (*A.J.* **40,** 181–182).

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He entered a small crack and climbed it. We had to give Rey the whole length of the rope and then, working hard with our arms, we also got up it. We then again paid out the whole rope to Rey, and finally at 11.50 emerged out of this terrible crack, finding ourselves just above the N. shoulder. Having at last found a place safe from falling stones, we stopped 20 mins. to have a little food and rest, and then started again.

Our route now zigzagged up the side of the mountain along narrow ribs of rock, slabs, and small cracks connecting the rock-ribs. We first went a little to the left, then to the right, and then along other ribs, bearing always towards the right; then again towards the left, thus traversing diagonally nearly the whole N.–N.E. face. There was now less danger of falling stones, the rocks being a little firmer as the mountain above us is composed of large slabs. At about 200 ft. from the E. ridge, we went straight up. Rey did not let us take a breather. As soon as he saw that we were safe, he started again and went up always towards the right. We were now obliged to give him the full length of the rope. When we reached him he started again. We saw him disappear at the back of some hole in the rocks and after a few seconds heard him shout, 'C'est fini; nous y sommes.'

We had still to climb a few steps, and at 14.10 were on the E. shoulder at a well-marked gap of white rocks about 100 ft. from the summit. Stopping about 40 mins. to rest and feed, we took off the rope and in 5 mins. reached the top.

I am very happy and very grateful to Rey for the success I owe to him. He had conquered the Aiguille Noire from the N., just as his father had been the first man on the top. Having also ascended the S. summit with his brother Henri, Adolphe can really claim the Aiguille Noire de Pétéret as a family mountain!

G. A. Rivetti.

Calotte de Rochefort, 3972 m. = 13,034 ft. By the S. face. August 11, 1928. Signor G. A. Rivetti, with Adolphe Rey and Alphonse Chenoz.

In the afternoon of August 10, I went up to the Grandes Jorasses Hut with my two guides, Adolphe Rey and Alphonse Chenoz of Courmayeur. From a very careful inspection from a distance of the face which descends from the Calotte de Rochefort to the Planpansière Glacier, we believed it possible to climb the Calotte direct by the rocks descending on to that glacier. I was also sure that Rey would do all he knew to succeed.

At 03.00 on August 11, we left the hut in perfect weather. We first followed the Col des Grandes Jorasses route. The glacier was in bad condition, and it was only at 05.30 that we reached the foot of the couloir leading to the Col des Grandes Jorasses. We crossed it quickly, and at 06.15 were on the (true) right of that couloir. We then climbed a little crack on the left, and, following that direction by some slabs and ribs of rock, in three-quarters of an hour reached

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Photo. Bottega d'Arte, Courmayeur.

AIGUILLE NOIRE de PÉTÉRET, N. face, showing 1928 route.

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CALOTTE de ROCHEFORT, S. face.

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the true left of the big couloir which divides the first big gendarme from the second of the Calotte de Rochefort. Stones were falling in the big couloir, so, instead of crossing it, we continued by the first marked arête until we reached a small platform situated at about the same level as the Col des Grandes Jorasses. We then climbed up, keeping a little on one side or the other of the ridge. We were in some places obliged to climb on each other's shoulders. At 09.15 we reached a very difficult crack with very few holds. Rey fixed two pitons, one of which I took away. Our route was now varied: for half an hour it was comparatively easy, but then followed one or two very difficult bits.

About 100 ft. before attaining the first gendarme we went towards the right, or Col des Grandes Jorasses side, and, by the ridge descending towards that col, reached, in a few minutes, the summit of the first gendarme. Keeping to the left, N., we climbed over the second gendarme, without too many difficulties, though the rocks were covered with *verglas*. From this second gendarme, keeping only a few feet from the ridge, and on the French slope, we went down to a little gap which divides it from the third gendarme. From the gap we descended for more than 15 ft. on black ice, and afterwards over a big block appearing to cut us off completely. After some very difficult climbing, the hardest of the whole expedition, we succeeded in passing it.

The Santi-Sigismondi party of August 13–14, 1910 ('R.M.' 1910, pp. 68–70), had come down from the third gendarme direct to the gap by means of a spare rope.

At 12.30, having scrambled over the third gendarme, always keeping on the French side, we reached the summit of the Calotte de Rochefort. Rocks were nearly always good, with good holds. Climb rather hard and very interesting.

At 13.20 we left the summit, reaching the Dôme de Rochefort at 14.20, the Aiguille de Rochefort at 16.00, the foot of the Aiguille du Géant at 18.00, and the Rifugio Torino at 19.30.

G. A. Rivetti.

Grandes Jorasses, 4205 m. = 13,797 ft. By the N.E. (Hirondelles) arête. August 10, 1927. Signori G. Gaia, F. Ravelli, S. Matteoda and G. A. Rivetti, with Adolphe Rey and Alphonse Chenoz.

On July 31, 1927, from the summit of the Aiguille de Leschaux, which we had just conquered by its N. ridge, we were looking with a keen desire at the ridge which, from the Col des Hirondelles, leads in a few big steps to the summit of the Grandes Jorasses. This ridge had occupied our minds for several years. With the purpose of taking photos and studying it, we had been several times to the Col des Hirondelles, to the Petites Jorasses, and to the Aiguille de Leschaux.

We asked our guides, Adolphe Rey and Alphonse Chenoz, to have

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a try at once. They objected to the unfavourable condition of the mountain, and pointed out the failure of all our predecessors although led by some of the best guides. They insisted, saying that it was impossible to go up where the Young-Jones-Knubel-Croux party had had to make large use of spare ropes. But we insisted, and we must have found words which went to the hearts of our two brave sons of Courmayeur, since, still with some reticence, they declared themselves ready for the battle.

We decided, therefore, to go down to Courmayeur to get provisions and to go up, weather permitting, to the shelter of the C.A.A.I., situated on the left bank of the Frébouzie Glacier. Unfortunately, the weather got bad and we had to leave Courmayeur, but with the understanding that, as soon as the weather looked like clearing properly, the guides would let us know, and they would in the meantime go up themselves for a first exploration.

The weather began clearing only towards the evening of August 3, and as we could not go to Courmayeur until the evening of the 5th, the guides went, as previously arranged, for a preliminary look at the difficulties. They left at midnight on the 4th, but gained the Col des Hirondelles only towards midday of the 5th, on account of the fresh and soft snow which they found on the Frébouzie Glacier. They went up at once along the ridge, which they found in bad condition owing to the fresh snow, and reached, in a little over 2 hrs., the well-known V-shaped gap, which on its upper side is formed by the wall against which all previous attempts had been stopped. It consists of a great wall of rock, quite smooth, compact, and vertical, and it has at only one point a vague, small crack, slanting from right to left, about 60 ft. high. It is the same crack descended by the Young-Jones-Knubel-Croux party in August 1911.[3] Rey was sure of not mistaking the place, as he had seen from the top of the E. branch of the V the iron pitons which the former party had used in fixing the rope for the descent. Rey and Chenoz crossed, on the Italian slope, the couloir of ice descending from the V-shaped gap, and came quickly to a sort of small platform at the foot of the wall. Adolphe Rey led up, as usual, while Chenoz, in a fairly safe position, paid out the rope; Rey got inside the crack and climbed like a fly, more by adherence to the rocks than by trying to find holds. He had a few holds on the left side of the crack, which is only a couple of feet deep, while on the right the face of the crack is quite smooth and more open. After about 18, very steep, feet he found on the left some quite small cracks in which he managed to insert his left hand, while the right could only be used to keep his balance, as on that side there are no holds. Further on, the crack got narrower, the right arm could be used, and, with the help of one's knees, it is possible to scramble up another 8 or 9 ft. At this spot Rey fixed an iron piton, allowing him to rest a moment, and, after

[3] *A.J.* **25,** 737–738; **26,** 231–242, illustrated.

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having passed the rope through its ring, Chenoz came up and got to where Rey was, Rey meanwhile starting again.

The crack at this point became quite vertical and Chenoz had to jam Rey close against the wall. Rey fixed another piton about 6 ft. above the first, and then, standing on this second piton, fixed a third a little higher, bidding Chenoz to go up to it before attacking the last overhanging bit. Only 10 to 12 ft. remained between him and Knubel's pitons, but it was the most difficult bit: the crack again becoming larger, while the last bit overhangs. Rey, with very delicate movements, arrived with his hands at about 5 to 6 ft. from Knubel's pitons. He went out first to the left and then, with a very awkward traverse, back to the right, then with a jump he contrived to reach the pitons. Chenoz joined him, and this, the most difficult problem, was solved.

It was late (about 4 P.M.), and the guides decided to come down. They fixed and left a rope hanging on Knubel's pitons, came down by it and, hurrying, reached La Vachey that night, arriving at Courmayeur the next morning.

On the evening of the 5th we joined them, heard the details of what they had done, and also that above the place they had reached there was a succession of big slabs and ribs of doubtful nature. More difficult than the rest looked a very large slab of red rock ending in the ridge. In any case, the only thing to do was to go there and see.

The next morning, August 6, we went as far as La Vachey, where we intended to lunch and then go up to the Frébouzie shelter. But suddenly the weather changed, and the storm went on until the afternoon of the 7th. We started and reached the shelter at 5 P.M. Next morning the weather looked much better, the snow began to disappear, and the guides went down again to La Vachey for provisions.

During their absence three climbers with two porters arrived at the shelter. Their object was exactly the same as ours, and after we had explained clearly to them why we were there and the great danger of being too many together on the mountain, they understood our point of view and our priority and only asked that one of them should accompany us. That is the reason why Signor Sergio Matteoda, whom we knew, came with us.

The guides came up, but it was only at 2.45 A.M. of the 10th that we could start off. The weather did not look very promising. We went up in silence at a good pace. Still unroped, we crossed the bergschrund under the col and went up to the rocks, passing by an old bivouac of some of our predecessors.

At 5.45 A.M., after a quarter of an hour's halt for food, we put on the rope, dividing into two parties: Rey, Rivetti, Gaia; Chenoz, Matteoda, Ravelli. The weather looked much better, and at 6 o'clock, when we attained the snow near the col, the first rays of the sun reached us.

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From the col, the first part of the ridge looks like a triangular face with the uppermost part of it composed by some sort of pinnacle forming the apex of the base of the famous V-shaped gap. In the centre of the triangle there was a snow couloir which we left on our left, climbing some steep but not too difficult rocks by which we made about 300 ft. We then went a little to the left, steering towards the centre of the wall at the foot of a big and apparently impassable step. Rey then went more towards the right, on a very steep slab with few holds, and we attained the ridge on the French slope. We doubled back towards the Italian slope, clambering up a steep ice couloir which, from the summit of the V, falls towards the Frébouzie Glacier. Above us is the E. face of the Grandes Jorasses. It is made up of big red slabs merging into the ridge. A little above us hung the rope left by Rey, as described previously. Rey cut steps in very hard ice for several rope-lengths. This was made a little easier by the remains of the steps cut by him 4 days before.

Afterwards we gained the opposite side, composed entirely of steep rocks covered with ice, and thence attained the little platform at the foot of the *mauvais pas*. With the help of the rope left by him, Rey was soon at the top and one after the other we all followed. Each of us had to make great efforts to arrive at the top, and our admiration for Rey, our great silent little man, who got up by his own skill alone, is really enormous.

At 10.30 we were all over this difficulty and stopped for food. We then kept to the left by some rock-ribs covered with snow, and then arrived at the famous big red slab mentioned mistrustfully by Rey. He went on keeping horizontally to the left, making use of a small crack in which it was difficult to introduce more than the tips of his fingers. He then reached a small patch of snow after about 60 ft. without too great difficulty. Rey tried a steep and narrow icy couloir, but had to give it up and come down again. Having left his sack, he crawled down on to the slab and tried it direct. He succeeded with great difficulty and ability, reaching a small platform. After this, the rocks were covered with ice and Rey had to clear the whole of it away. Finally, at 12.45 he hacked through the small corniche and through the gash we all passed over and looked down on to the N. face.

We then followed the crest of the ridge until the end. The difficulties diminished, fortunately, because the rocks were much covered with snow and ice.

We were tired, physically and morally, as the battle had already lasted nearly 12 hrs., but we were not allowed to stop. It was 2 P.M. and the summit was still at some distance. The sun had left us and the weather was doubtful. We went up the last 100 m. as quickly as possible. We felt that the summit was near, victory in sight, and, the gradient easing off, we finally reached the snow at the top.

Our conquest was principally due to our Courmayeur men, more

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particularly to Adolphe Rey. To them is the credit of our success. We are proud of having contributed, modestly, to this victory, which, given the fact that we all are Italians, can really be called an ' Italian ' victory.

G. Gaia.
F. Ravelli.
G. A. Rivetti.

Aiguille sans Nom (*Pointe Croux*), 4023 m. = 13,197 ft., *Vallot*. By the N.W. face. July 9, 1928. The guides Armand Charlet and Camille Dévouassoud. From a bivouac on the left lateral moraine of the Nant Blanc Glacier, *ca.* 2700 m. (dep. 03.00), steer towards the N. base of the Aiguille du Dru, turning numerous crevasses, to the bergschrund at foot of couloir descending from depression between *Pic* sans Nom and Grand Dru (Col des Drus, *Vallot*), 04.00. Cross the great schrund and cut up the very steep snow and ice gully averaging 57°; higher up bear diagonally to the left, S., by a kind of secondary gully, steering towards a great ledge by which access to the hanging glacier on N. face of Aiguille Verte appears obtainable. Climb difficult rocks and two chimneys to the ledge, attained under the Col des Drus, 07.00. Continue bearing diagonally to the left towards the hanging glacier, following the said ledge. The ledge is broken by many awkward steps. You can finally attain the hanging glacier, *either* by traversing a little icy gully, *or* by apparently broken rocks presenting, however, great difficulties. The party mounted erroneously by these rocks and only a 15 m. *rappel* and a swing across holdless slabs finally brought them to the glacier. This glacier, mostly ice, proved excessively steep; taking advantage of a few projecting rocks, party attained a small platform (1 hr. 10 mins.).[1] Still bearing very gradually to the left, difficult rocks are climbed to a kind of smooth rib forming the margin of an ice gully set at a startling angle. The party had intended to cross the gully, but this latter is so terribly raked by stone-fall that nothing was left except the direct climb, straight up, to the Pointe Croux. Over perpendicular rocks, highly glazed, almost holdless slabs, and finally by a vertical, narrow and smooth chimney, standing on each other's shoulders with nothing but ' ice axe ' holds, access obtained to a tiny snow patch, where a short halt was made, 16.00.

Rocks are now slightly easier, till a great rock bastion, overhanging on the right, W., and completely glazed on the left, E., seems to block any further progress. This bastion is finally conquered by a little crack, several swings on a *rappel* fixed in minute notches, with more exposed and holdless rocks, nearly 200 ft. of rope being employed, 18.00. Next by short ice slopes and more glazed rocks,

[1] At this spot, or approximately, MM. de Ségogne and Lagarde, who had been following independently, very rightly abandoned the expedition.

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the main ridge is attained by hacking through the great corniche close to the summit of Pointe Croux, reached at 19.15.

The party continued to the Aiguille Verte, 20.00, descended by the 'Whymper' couloir to the bergschrund, 21.30, attaining the Couvercle at 23.00 hrs.

The expedition must be considered, on Armand Charlet's own confession, as thoroughly unjustifiable on account of its excessive danger and difficulty.

(From *Alpinisme*, No. 13, pp. 1–9, illustrated.)

Pennines.

FLETSCHHORN, 4001 m. = 13,128 ft. Point 3928 m. reached by the E. face. July 27, 1928. Count A. and Countess E. Bonacossa. From a bivouac on the right moraine of the Bodmer Glacier (4 hrs. from Simplon village), mount that easy glacier to the base of the great rock rib commencing at about 2970 m. and joining the Breitlaubgrat at a spot where the latter becomes snowy. The rib is not difficult but the rocks are unpleasantly rotten, tremendous stone-falls occurring all day down the great gully farther to the S. The rib is climbed to the summit of the Fletschhorn (*ca.* 6 hrs.).

Once achieved, this route deserves no further attention.

A. B.

Bernese Oberland.

BREITLAUIHORN, 3663 m. = 12,019 ft. By the N.W. face. July 26, 1928. MM. Daniel Chervet and Marcel Etienne. From the Fafleralp (dep. 03.10) take the Lötschenlücke route, but soon after the Gletscheralp cross the Lonza and mount the E. bank of the great deposits brought down by the Innerer Lauibach. This torrent is crossed and the great moraine between the Innerer and Aeusserer Lauibach is attained *via* the Augstkumme. At about a height of 2300 m., débris are traversed to the left, N.E., to attain the Lauibach Glacier straight below point 2669 m., *S. map* (04.50–05.00 hrs.). Point 2669 m. reached at 05.50. A rocky ridge, rising from this point, is bounded to the N.E. by a great ice slope at least 3000 ft. high, the angle of which, steadily increasing, attains 57° in the last 1000 ft. By a couloir to the right, S., and a traverse to the left the crest of the rocky ridge is attained, 06.10–06.30. Numerous traces of falling stones. Now by easy rotten rocks to a rocky notch at about 2940 m. (cairn constructed, 07.10), where the arête splays out into a red granite cliff. A ledge leads to the E. bank of the cliff, and progress continues, close to the ice, up steep but very firm rocks. A second notch is attained beyond which the rocks become rotten again till they change to white granite and improve. A shoulder is reached at a height of about 3400 m. (09.15); here the face merges into a snowy ridge bending distinctly to the left, N., and separated from the Breitlauihorn itself by a deep couloir plunging downwards to the W. The ridge is followed over two very sound

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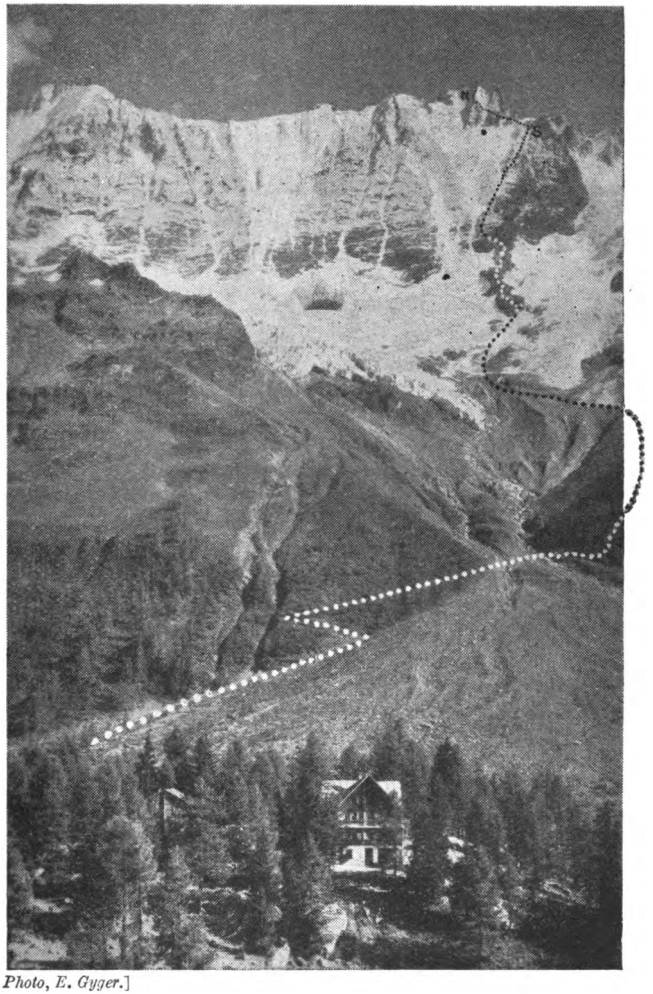
pinnacles; from the second of these the ridge now bends to the right, and, becoming hard ice, loses itself at the base of the nearly



Photo, E. Gyger.]

BREITLAUIHORN, N.W. FACE.

N = 'Nose.'
S = 'Shoulder.'

vertical gully in the peak's final wall (10.30). An awkward traverse to the left by a narrow ledge and a very steep climb up smooth rocks lead to a minor arête appearing to fall directly from the summit (the true top is not visible from the Fafleralp). This arête is

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attained at a short, level, and snowy bit (the 'Nose'), 11.20, before plunging into the great ice slope. Finally, a steep scramble over the firm rocks of the arête leads to the watershed, 12.25, and the summit, 12.50.

Descent by the S. arête to the Baltschiederklause.

The line of ascent is almost straight up from the Fafleralp. From the cairn at *ca.* 2940 m., difficulties are continuous and for the last 2 hrs. very great. Conditions and weather superb. No stones were seen to fall, but there were abundant traces. Route constitutes a splendid expedition only to be recommended in perfectly dry seasons. Although the sun does not shine on the N.W. face till about 14.00 hrs., a *descent* appears highly inadvisable. D. C.

[WETTERHORN, 3703 m. = 12,149 ft.] The SCHWARZWALDFIRN attained direct from the N. July 13, 1928. Herren Gottlieb Michel, Otto Brügger, and Emil Thöni. From the Hotel Schwarzwald-Alp, dep. 02.00, to point '0' (of the photograph), ¾ hr. Thence over complicated, rotten, but not difficult rocks as far as point '1.' Now, wearing *Kletterschuhen*, over very firm smooth slabs up to point '2,' 07.00. Part of route between points '1' and '2' very comparable to terrain from Ochsenthal to Gemsenlücke [Engelhörner], although distinctly harder. Between points '2' and '3' are two high and vertical steps, both very difficult and fatiguing—quite first class. From point '3' an easy *descent* to the glacier. This glacier—*Schwarzwaldfirn*—is a chaos of crevasses and on its condition depends entirely the possibility or otherwise of the ascent. At point '4,' 17.00 hrs., party joined the route effected in 1920 by Herren Graber and Leuthold, *via* Dossen Hut–Upper Wellhornsattel and so to summit of Wetterhorn (see upper line in photograph).

From point '4' a bivouac would have been necessary had the summit been attempted; party accordingly descended by Lower Wellhornsattel to the Dossen Club Hut, 20.15.

This difficult route was rendered more arduous by having to haul up separately and frequently the heavy sacks, ice axes, and equipment of the party.

Herr Graber states that he left the Dossen Hut very early and that his party attained the summit of the Wetterhorn at 17.00. The difficulties were not serious after the bergschrund near point '4,' and certain *rappels* on a tower near point '6.' Point '5' is the main ridge or watershed. At the gap by point '6,' falls in the route coming from the Hühnergutz Glacier.

A considerable number of parties had tried to scale the Wetterhorn, N. face, in different places; all have failed. Herren Michel and Thöni, with Kaspar Roth, made the first attempt on the above described route in 1924; they reached point '2' in 8 hrs. and returned owing to want of time. In 1925 the same party, without Roth, reached a spot *above* point '2,' but returned owing to bad

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Photo. Wehrli.

LÖTSCHENTHALER-BREITHORN and BREITLAUIHORN.

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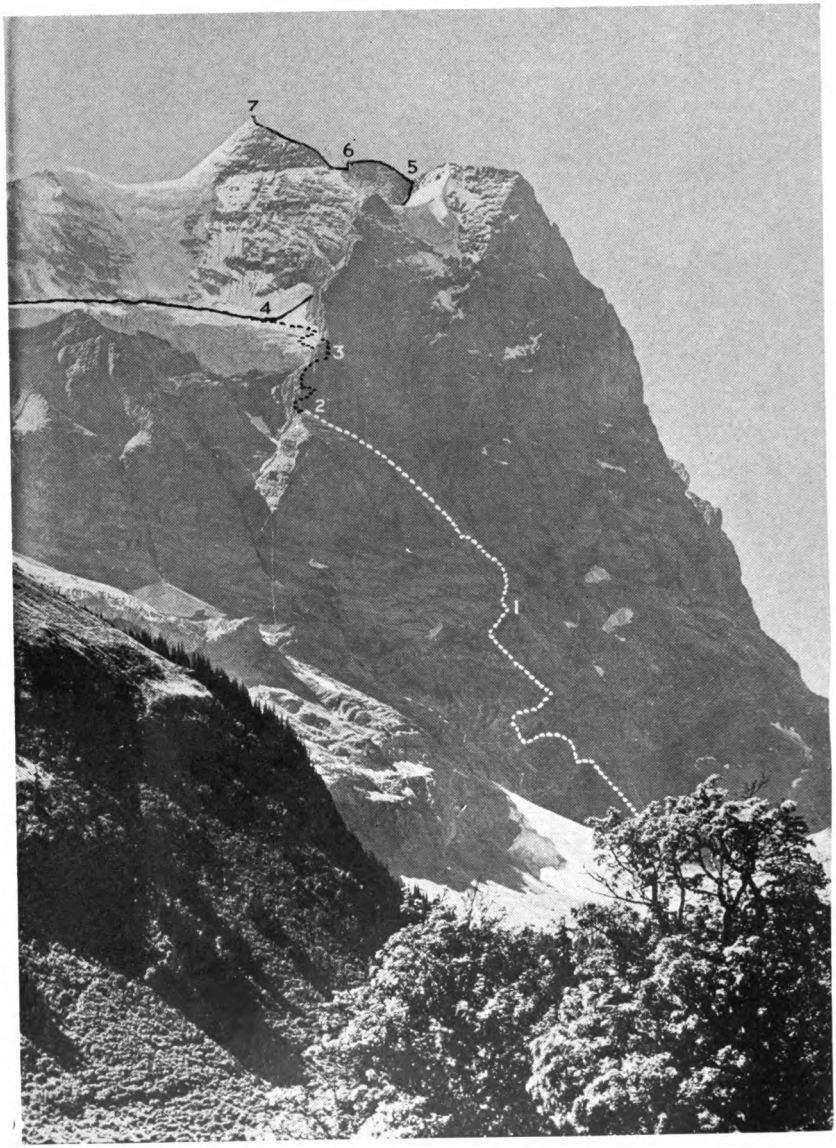

Photo. Brügger, A. G.

N. face of WETTERHORN.

Dotted line is 1928 route; continuous line is 1924 route.

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weather; on this occasion the party bivouacked in a convenient 'cave' between points '1' and '2.'

The ascent to the Wetterhorn by this route (in one day) is perfectly feasible for a party already *knowing the way*. For others, Herr Michel considers the route too long. Moreover, the said route depends largely on the condition of the ice fall between points '3' and '4.'

(Communications from Herren Michel and Amstutz.)

Adula Alps.

RHEINWALDHORN, 3406 m. = 11,194 ft. (*S. map*). By the S. face. July 16, 17, 1928. Signori L. Binaghi, E. Piantanida and Count A. Bonacossa. On July 16, from the U.T.O.E. Club hut, party crossed the Passo Guarnaio (*ca.* 2600 m.) to the base of the S. face attained at about 2720 m. (2½ hrs.). The Cadabbi Glacier has shrunk far more than as shown on the map. First from right to left, then with many zig-zags, the first 1300 ft. of the face were climbed, very steep and bad rocks, rendered worse by débris of the great rock-slides of October, 1927 (2 hrs. 50 mins.). In threatening weather, party pulled out to the right, E., by débris-strewn ledges, attained the mountain's S.E. arête at about 3100 m. and went down to the Zapport Hut.

On July 17, returning to the spot whence the expedition had been abandoned, party easily attained centre of the S. face and by débris and easy rocks reached a first top (1 hr. 40 mins., very slow) and the summit (18 mins.).

This wall, the highest in Tessin, some 2300 ft., is not to be recommended. The lower part is occasionally raked by stone-fall and there is danger of rock-slides. Some steps are difficult.

A. B.

Bernina (W. Wing) Group.

PIZ (MONTE DI) ZOCCA, 3175 m. = 10,418 ft. (*S. map*). By the S. face. September 6, 1928. Captain G. Zanelli and Count A. Bonacossa. From the Allievi Club hut by the new 'Roma' path ('A.J.' **40**, 186), to the Zocca or Averta glen (20 mins.). Steer towards the Bocchetto di Zocca till near the foot of the gully leading to that gap, then bear to the right, E., and by easy slabs attain a ledge traversing the peak's S. face above the cliffs at its base. Take the *second* couloir by the rocks of its W. bank; mount said couloir to the top, then pass into another gully to the S.E. giving out into the S.W. arête between the false top and the great gendarme. Before arriving at the top of this couloir take a ledge to the right leading straight to the S.W. peak, whence by the N., Albigna slope, the summit is soon reached (6 hrs.).

An interesting and safe expedition, one rather hard slab; rocks usually good.

A. B.

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VARIOUS EXPEDITIONS.

Pennines.

STECKNADELHORN, *ca.* 4235 m. = 13,870 ft. (no height on *S. map*). Traverse of Hohberghorn and Dürrenhorn, September 11, 1928. Mr. C. F. Meade, with Pierre Blanc.

Starting from the Dom Hut, we crossed by the Festijoch in 3 hrs. to the right bank of the Hohberg Glacier and breakfasted. From the glacier it was very easy to ascend over rocks on the true right of a couloir leading to the Unter Stecknadeljoch in 55 mins. We then followed the ridge (turning it finally on the W.) to the Stecknadelhorn in 26 mins., then back to the Unter Stecknadeljoch in order to climb the Hohberghorn thence in 15 mins.

Clouds were now thick and threatening, and the view had vanished for the day. From the top of the Hohberghorn down to the Hohbergpass the conditions were excellent, with only a very few steps to cut where the diminutive remains of an ice corniche crowned the narrow ridge, so that we took only 50 mins. for the descent instead of the 1 hr. 20 mins. mentioned by the guide-book. It was now 08.50, and, according to the book, a climb of only a few minutes should have taken us up from the Hohbergpass where we were to our third and last peak, the Dürrenhorn. The conditions, as usual in 1928, were everywhere perfect, and we unroped for faster going up the easy rocks, but were surprised to find that it took us a good 40 mins. to reach our peak.

It was now snowing, and after half an hour for food and rest we began the long descent to Randa at 10.00. I had thought of returning to the Hohbergpass, but that route down the Hohberg Glacier looked bad in its lower course, so, if we were not to make for a descent by the Ried Glacier, it seemed best to descend along the W. ridge of the Dürrenhorn in order to join the Hohberg Glacier a long way down its course. We were ignorant as to whether there was any convenient direct route down to Herbriggen, and nothing could be seen in that direction. It would have been possible to take a short cut down across the rock face below the Dürrenhorn and by crossing many couloirs reach the foot of the Hohbergpass where the Hohberg Glacier begins, but in this phenomenal season the dry couloirs looked suggestive of stone avalanches, and the full length of the glacier evidently contained a formidable series of séracs.

Thus we preferred the W. ridge. It is long, rotten, and in parts jagged, so that we frequently turned its towers by the easy S. face, with once or twice a *mauvais pas* over the steep and rotten rocks encountered in order to rejoin the ridge. In 1½ hrs. we had descended to the glacier, and began to follow it down its right moraine until at 12.30 we found an overhanging boulder under which to shelter for a meal, the snowflakes having turned to rain.

We now thought that the problem of the descent had been solved, but the most intricate part was still before us and the mist was no thinner. Leaving the snout of the Hohberg Glacier to the S. and following an artificial watercourse for 200–300 yards northward, along the mountain-side high above the main valley where the

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Mattervisp flowed buried in cloud, Pierre miraculously discovered in the long grass some faint marks branching off down towards the invisible gulf below. These led us along a small and diffident track winding its way downwards and northwards, and occasionally despairingly upwards. Everywhere the rank grass showed that no cattle came here. Presently the path executed a quite alarming traverse southward on a steeply sloping shelf poised above the clouds. At the same moment there suddenly appeared on our level in front of us a tremendous jet of water spouting a hundred feet into the air from the bed of a torrent in a massive, almost horizontal column, the most wonderful waterfall I have ever seen. The track had been hacked and blasted out of the precipice, and now led back northwards and downwards. Below us at one moment was a steep little grass bank bending over into nothing. A few minutes later we were on the comfortable little plateau containing the scattered chalets of Bergli nestling in an abundance of currants, raspberries, willow-herb, mountain ash, and other brilliant autumnal colouring.

I assumed that the programme of sensations was finished, but I was wrong, for the path reached its climax in the descent from the hamlet. It led us to the brink of an overwhelming precipice, down which it proceeded to climb in a series of breath-taking zigzags, each zigzag or tier of the path overhanging so much that it was not possible to see the tier below. There was a gate to prevent any infatuated cattle from wandering down into this death-trap. Cows existed in the hamlet, and, we were told, were sometimes carried up when portable as calves.

We heard afterwards that there is a roundabout alternative path for the less adventurous who may wish to reach Bergli. Part of the track was composed of logs pinned to the face of the precipice, and part consisted of ledges hewn out of the rock.

We descended carefully, and it was not until 15.25 that we struck the high road in the valley a little above Herbriggen, reaching Randa in pouring rain and wet through. 'Times' were fast owing to the rapid advance of bad weather. The astonishing summer of 1928 had come to an end at last.

02.35.	Leave Dom Hut.
05.20.	Festijoch.
05.30–06.10.	Halt on Hohberg Glacier.
07.05.	Under Stecknadeljoch.
07.25–07.30.	Stecknadelhorn.
07.45.	Back at Unter Stecknadeljoch.
08.00.	Hohberghorn.
08.50.	Hohbergpass.
09.30–10.00.	Dürrenhorn.
11.35.	Hohberg Glacier.
12.50–13.50.	Halt on right moraine of Hohberg Glacier.
15.25.	Strike high road above Herbriggen.
16.35.	Arrive at Randa. C. F. MEADE.

[It would be very interesting to ascertain whether any other member has accomplished this remarkable descent.—*Editor,* 'A.J.']

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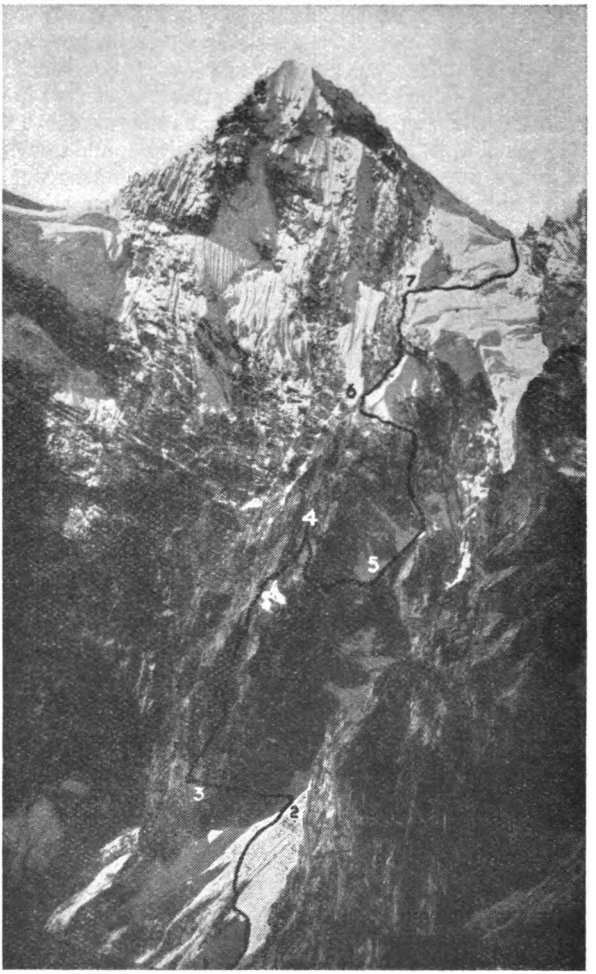
Bernese Oberland.

BÜTTLASSENLÜCKE, *ca.* 3000 m. = 9843 ft. (no height on *S. map*), from the E. September 9, 1928. Herren W. H. Amstutz and



Photo, E. Gyger.]

GSPALTENHORN (E. FACE) AND BÜTTLASSENLÜCKE.
SHOWING 1928 ROUTE.

Gottfried Michel. From the Kilchbalm in the Sefinenthal (1) the party attained the foot of the marked rocky rib (2) in the Gspaltenhorn's E. face, for which the name *Kilchbalmgrat* is suggested. A traverse over grass and débris led to the slabby outlying portion

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of the rib (3). Thence straight up over partly difficult rocks and up an overhang to a rock tooth (4). Difficult rocks now checked all progress, compelling a descent and traverse towards the Hirtli Glacier, N., thus turning the obstacle (5). The rib was then regained by an exposed climb at a snow-cap. The crest was followed and the pass attained, bearing to the right, N., over the uppermost slopes of the Hirtli Glacier.

The direct ascent of the rib (4–6) is possible with *Kletterschuhen*, of which the party was deficient. Owing to bad weather, fresh snow, and the late hour, an ascent of the Gspaltenhorn had to be given up. The direct ascent of the Gspaltenhorn over the *Kilchbalmgrat* would only be possible in a very dry summer, and would also be dangerous.

'Times': (1) Kilchbalm, floor of Sefinenthal, 06.00–06.30; at (2) First Step, 08.25–09.00; at (4), 14.00; at (6), snowy ridges, 17.30–17.50; Büttlassenlücke, 21.00.

(The figures in brackets refer to the illustration.) W. H. A.

[The first crossing of the Büttlassenlücke was accomplished on July 29, 1894, by M. and Madame Paul Montandon and Herr R. Koenig; *S.A.C.J.*, xxx. 411–412, and *Climbers' Guide.*]

FUSSHÖRNER, 3268 m. = 11,903 ft. to 3106 m. = 10,191 ft. Peak No. 7. *Climbers' Guide*, vol. i. part 2, p. 209.) On July 18, 1928, Messrs. R. Fanshawe and H. Booth, with Theodor Biner of Zermatt, ascended this peak by a variation of the usual route. From the gap, reached by the route described in the *Climbers' Guide*, between Peak No. 7 and Peak No. 8, they ascended directly from the gap for about 100 ft. At this point the series of ledges that had been followed died out, and further progress was made directly upwards over rocks, which were not as difficult as they appeared at first sight, for a further 100 ft. From this point the foot of the chimney leading down between the Central and E. Summits was reached. The chimney was ascended without great difficulty to the gap between the two summits.

This point had been previously reached by Messrs. M. de Selincourt and H. Booth on July 13, 1924. They had then climbed up the ridge to the Central Summit with extreme difficulty, but had found that it was slightly lower than the W. Summit, and as they had left behind their spare rope, they had to return by the way by which they had come. The plan in 1928 was to follow this route to the summit, but on arrival at the gap between the Central and E. Summits, further progress towards the former was found to be impossible, as several large pieces of rock had broken away recently. In 1924 there had been no difficulty in the ascent at this point, the most difficult point being about 20 ft. higher up. In consequence, it became necessary to descend on the N. side of the Central Summit on to a broad sloping ledge covered with loose stones and so to get round it. This involved no special difficulty, except that the whole

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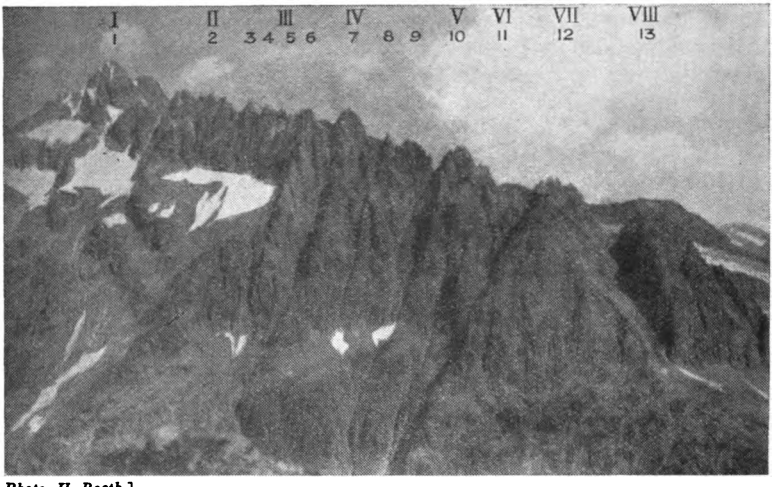
mountain on the N. side appeared to be in a state of great instability. The smallest stone knocked down started enormous rock-falls into the gully recommended for the ascent of Peak No. 6 (*Climbers' Guide*, p. 208), which consequently is not at all safe from falling stones.

From this ledge a chimney about 60 ft. high led practically to the top of the W. Summit. This was climbed, the only difficulty being a number of loose holds which had to be removed, and the ordinary route joined within a few feet of the summit.



Photo, H. Booth.]

FUSSHÖRNER FROM SPARRHORN.

On the descent the route described in the *Climbers' Guide* was followed, till it was possible, by traversing to the E., to rejoin the line of ascent near the chimney leading to the gap between the Central and the E. Summit. From this point a ledge leading to the left was followed which joined a series of ledges leading back to the right to a point a little above the gap between Peak No. 7 and Peak No. 8 (see note at end).

Times: Left Belalp, 04.50; gap between Peak No. 7 and Peak No. 8, 08.45 to 09.15; Peak No. 7, 11.15 to 12.5; gap, 13.15 to 14.15; Belalp, 16.30.

GISIGHORN, 3182 m. = 10,440 ft. From Gisig Pass. On July 20, 1928, Messrs. R. Fanshaw and H. Booth, with Theodor Biner, traversed the Gisighorn from the Gisig Pass. The climbing on this ridge is of a very high order, and the time taken by an average party will be somewhat longer than the 3½ hrs. mentioned in the *Climbers' Guide* vol. i. part 2, p. 153). The crest of the ridge should be followed in the main, but at the head of the

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big gully descending on the E. side of the peak, clearly seen from Belalp, the best route is to traverse on to the W. side of the mountain and ascend by some very steep and loose-looking boulders, which are quite firmly fixed, and then to regain the ridge not far from the middle and highest (?) summit. Local guides usually descend direct to the top of the gully with the aid of a doubled rope.

In July 1924, Messrs. G. C. Carlisle, R. J. Brocklehurst, and B. Harward reached a point half-way down the gully by descending the E. face of the peak. This alternative is certainly not a satisfactory one for the ascent. 6 hrs. were taken from the Gisig Pass to the highest point, including several rests and 25 mins. thence to point 3182 m.

NOTE.—Since writing the above, an excellent article on the Fusshörner has appeared in *Die Alpen*, 1929, pp. 81–99, by Dr. Oskar Hug. The peak numbered 7 in the *Climbers' Guide* is described by him as No. 12. The diagrams on pp. 90 and 91 give a good impression of the route followed to the gap between Peak No. 7 and Peak No. 8 (12 and 13), and opposite p. 96 there is a photograph giving an excellent idea of the upper part of this peak. From this photograph it would appear that the Central Peak is the highest one, which was the reason of this ascent in 1924.

H. B.

Apennines.

GRAN SASSO D'ITALIA (*Corno Occidentale*), 2921 m. = 9815 ft. Traverse. October 11, 1928. Marchese Origo, Signor M. d'Armi and C. F. Meade, with Pierre Blanc. As seen from the Rifugio Garibaldi, the right-hand skyline leading to the summit of the Gran Sasso appears as an alluring arête, but as fresh snow was everywhere round about we chose one of the last couloirs on the near side of it instead. The rock climbing was easy and the top was reached in 3 hrs. from the hut. The vast stretches of the Adriatic, the myriad gradations of mellow colour in the distance and middle distance, the magnificent Dolomite foreground, and the remarkable Caldarone Glacier (by no means a mere névé) with its cirque of towers were impressive features of the view. The descent by the ordinary way is by a track over the rocks.

CORNO PICCOLO. Traverse. October 12, 1928. Same party. The next day the party traversed the Corno Piccolo from the same hut by the Sella dei due Corni. On reaching this pass we roped and would have put on *Kletterschuhen* had the fresh snow permitted. The climbing is of the difficult Dolomite variety and *Kletterschuhen* would have been a great help. Luckily, the harder bits were sheltered from the bitter wind, as they were more on the face than on the arête. The high landscape had the appearance of a 4000 m. peak in a snowy season in the Alps. The top was reached in 5 hrs.

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from the Garibaldi Hut, including 1 hr.'s halt. The descent by the ordinary way and back to the hut does not present any difficulties.

Another hut has been built, not so centrally situated for the Gran Sasso group as the Garibaldi, but possessing the advantage of not being liable to complete disappearance under winter snow.

There is a flourishing school of climbers in Aquila, and we were indebted to them for much information and advice.

C. F. MEADE.

[See in general Mr. Freshfield's interesting articles, 'A.J.' **8**, 353–375, with an illustration, and 'Below the Snow Line,' pp. 95–115.]

ALPINE NOTES.

THE ALPINE CLUB OBITUARY:	Date of Election
Farrar, J. P.	1883
Stutfield, H. E. M.	1886
Quincey, E. de Quincey	1888
Carlisle, A. D.	1889
Aitken, Samuel	1891
Mathews, C. M.	1899
Arnold, H. J. L.	1904
Meares, Thomas	1908
Fynn, Val. A.	1911

ALPINE JOURNAL.—Index to Vols. 16 to 38. This Index will be ready for publication at the end of June, 1929. Copies may be ordered from The Assistant Secretary, Alpine Club, 23, Savile Row, London, W. 1. Price 10s. 0d. net, or 10s. 4d. post free.

'THE CLOSING OF THE ITALIAN ALPS.'—In the absence of any further report, we must assume that the same deplorable conditions prevail as in the last two seasons. Mountaineers cannot be too strongly advised to avoid expeditions entailing any descent on the Italian side. LATER: *See* p. 260.

Music des 80jährigen.

Glückwunschbriefe, Telegramme:
Wüsst ich, wer zurück mir riefe,
Was vor Zeiten meine Amme
Meinte zu dem zarten Knaben
Und von seinen künst'gen Gaben.
Dachte wohl, ihm sollt gelingen
Alles tüchtig zu vollbringen

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Von dem ersten Kinderlallen
Zu den Werken, die gefallen
An des Alters hoher Schwelle
Vor der Ewigkeiten Welle.
Töricht Herz, wann wirst du lernen
Spreu zu sondern von den Kernen
Mit Erreichtem dich bescheiden
Eitle Ruhmeskränze meiden?
Ach, wohin sind sie geschwunden
Jene ahnungsvollen Stunden,
Da an mich der Glaube brannte,
Hoffnung keine Grenzen kannte.
Jetzt bebütet laue Asche
Die verglomme Feuertasche;
Was in Teilen noch gefunden,
Will sich nicht zum Ganzen runden.
Bessrer Trost ist mir geblieben
In dem Beifall meiner Lieben.
Also töne leise, leise
Einmal noch die alte Weise
Bei der frohen Jubelfeier
Auf der neugestimmten Leier.
Dass um abgedorrte Sprossen,
Wie wir sie vordem genossen,
Vielleicht frische Triebe ranken,
Dafür, Freunde, lasst mich danken.

Bern, am. 25. November 1928.

Dr. Heinrich Dübi.

Oxford University Mountaineering Club (Summer, 1928).—The summer meet was held this year at the Vittorio Emanuele Hut at the end of July. The following climbs were done: Grand Paradis, traverse of Charforon, Tresenta, Becca di Monciair, and a party of three descended the N. arête of the Paradis for some way, eventually reaching the Glacier de la Tribulation by the E. face. Considerable difficulties were encountered on this climb, and after several attempts to get back to the hut, the party was forced to bivouac on the glacier and to descend next morning to Cogne. All these climbs were guideless.

After the meet one party proceeded to Courmayeur and climbed Mont Blanc from the Glacier du Mont Blanc, descending by the Glacier du Dôme. They then went to Zermatt and climbed the Täschhorn from the Täschalp. These climbs also were done without guides.

Another Oxford party was at Arolla and did the following climbs: Aiguille de la Tsa, traverse of Mont Collon, traverse of the Aiguilles Rouges, Dent Blanche, and Matterhorn by the Z'mutt arête, descending to Zermatt, all of them with the Arolla guide Joseph Georges *le Grand*. Climbs were also accomplished by members of the Club in the Bernina and in the Oberland.

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GRANDES JORASSES, S.E., or Tronchey, arête.—We understand that the route reported in 'A.J.' **40**, 403, is *not* by this arête, but is a (?) variation of the Ravelli-Rivetti-Croux route of 1923, *i.e.* by the S.S.E. or Tronchey *face* ('A.J.' **36**, 393–4; 'Kurz,' p. 192).

MONTE ROSA, E. face.—Signor Georgio de Wolff has presented a very fine water-colour painting of this face. It is now hanging over the mantelpiece in the Alpine Club. The gift is appreciated deeply by all the members.

Messrs. T. G. LONGSTAFF and E. L. STRUTT have been elected *Membres d'Honneur* of the G.H.M.

HUTS IN THE MONT BLANC GROUP.—We hear that the roof of the Requin hut has been destroyed during the winter. We also regret to report that there is talk of erecting a new hut near the 'Red Tower' at the E. base of the Aiguille de Grépon. The hut would be constructed by the *Club des Sports*, Chamonix. It would be difficult to choose a more unsuitable spot for a Club Hut, and it is to be hoped that the money will be devoted rather to ameliorating existing huts in the region, many of which are in a deplorable condition of disrepair and dirt.

Monsieur CHARLES VALLOT, the distinguished cartographer and mountaineer, has been elected an Honorary Member of the Alpine Club.

MONT BLANC, Brouillard arête.—*La Montagne*, now much improved in *format*, reports the first descent of this famous ridge, July 18, 1928, by MM. A. Migot and R. Tézenas du Montcel. The times from the Vallot hut to the Col du Brouillard where the party bivouacked, as intended, were from 01.45 till 19.15. Conditions and weather were good, but the descent, from near Pic Luigi Amedeo to the Col Emile Rey, was very dangerous. The return, owing to chronic frontier troubles, had to be made over the Col de Miage to St. Gervais and Chamonix, the total length of the expedition being from 11.45 on July 16 to 10.35 on July 20. *La Montagne*, 1929, pp. 11–20.

MOUNT KENYA, 17,040 ft.—On January 6, 1929, Messrs. E. E. Shipton and P. W. Harris left the 'curling pond' on the left bank of the Lewis Glacier at 07.30 and crossed the glacier to the foot of the rocks of Point NELION, the second highest peak, at 08.10. Point Nelion was reached at 11.15 (first ascent) and the 'Gate of the Mists' crossed to BATION, the summit of Kenya, attained at 13.45 (second ascent). The base of the rocks was regained at 18.30. The same party, together with Mr. G. A. Sommerfelt, repeated the ascent on January 8. The weather and conditions were good.

P. W. H.

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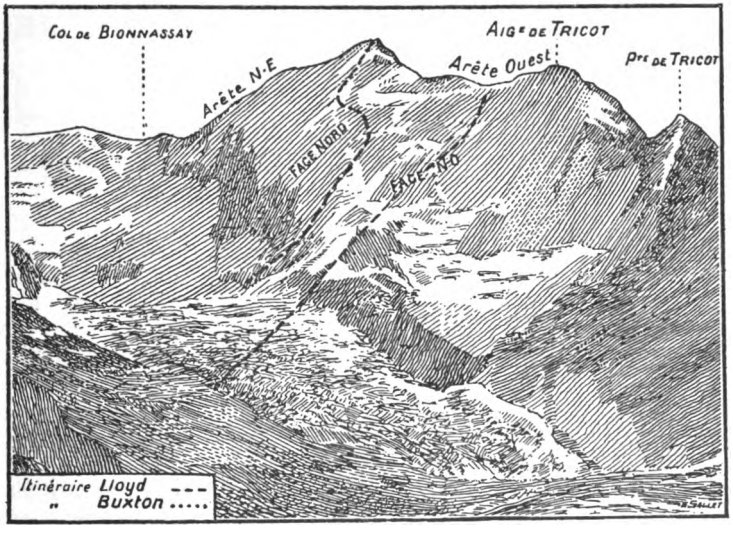
MACLEAR'S BEACON, Table Mountain.—The annual memorial service for S. Africans who fell in the War was held on February 25, in the presence of the Governor-General, Princess Alice and Lady May Cambridge, the latter making the ascent by the Silverstream Buttress. General Smuts, in his opening remarks, referred to the very great loss mountaineers over the whole world had recently sustained in the death in London of Captain J. Percy Farrar, a brother of the late Sir George Farrar. Captain Farrar had been closely associated with South Africa and had made interesting ascents of Table Mountain many years ago. He had been a member of the Alpine Club for almost fifty years, and had attained to the greatest honour in the whole mountaineering world—the Presidency of the Alpine Club. The late Captain Farrar was particularly interested in South African mountaineering and mountaineers.

Many members will like to know that our former President, Bishop FORREST BROWNE is still very vigorous and keenly interested in the Club and its welfare.

To a neighbouring member he lately observed ' At 95 I can still hold myself up—I love the Alpine Club and every mention of it, but unfortunately I cannot attend the meetings now as I have to keep indoors at night.'

AIGUILLE DE BIONNASSAY.—Monsieur le Commandant E. Gaillard in his interesting monograph in the *Revue Alpine*, Vol. xxix, pp. 97–140, on the Aiguille de Bionnassay, gives a drawing



1926 route to left.
1865 route to right.

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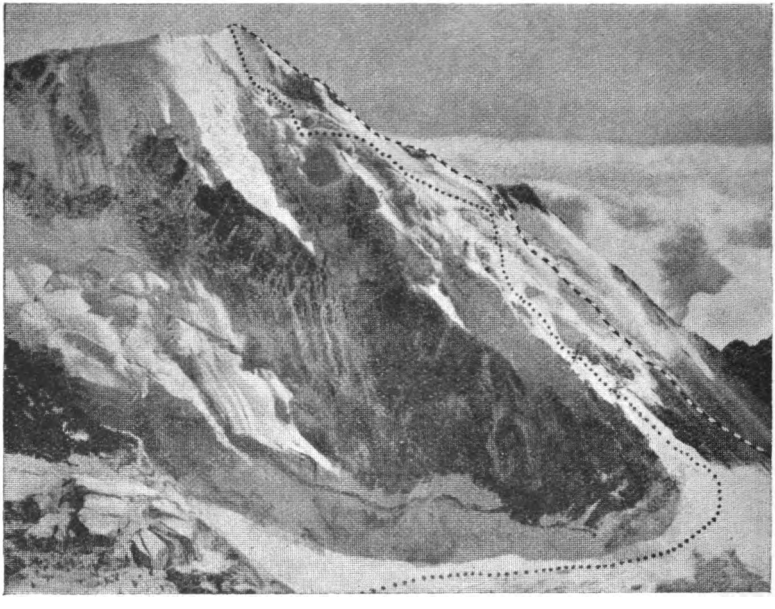
showing what he considers to have been Mr. Buxton's route on the first ascent of this peak, and of my route in 1926, and then proceeds to state that mine was not a new route, but a variation of Mr. Buxton's route. Monsieur Gaillard's route for Mr. Buxton's party, as shown on his drawing, is obviously the cause of this statement, but it is quite incorrect, as is proved by Mr. Craufurd Grove's paper, where he describes their ascent by the W. or 'Tricot' arête and the time it took to reach the summit.

It is obvious that Messrs. Craufurd Grove and Buxton gained the 'Tricot' arête at its lowest part and could not possibly have



..... = R. W. Lloyd's route, 1926.
- - - - - - = Grove-Buxton route, 1865.

taken the route shown by M. Gaillard. Mr. Grove himself describes the impossibility of the route I took in 1926 and obviously went *direct* to the dip in the 'Tricot' arête. ('A.J.' **2**, 325–6.)

I give views showing the route taken by Messrs. Craufurd Grove and Buxton's party and proving that mine was not a variation, but a completely new route. There are also several omissions in the list of early ascents of the Aiguille.—R. W. Lloyd.

Hut on Ben Nevis.—In memory of their son, Captain Charles Inglis Clark, A.C., who died of wounds in Mesopotamia, an admirably built and equipped hut has been presented to the Scottish Mountaineering Club by Dr. W. Inglis Clark, A.C., a former Presi-

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dent of the Scottish Mountaineering Club, and Mrs. Inglis Clark, first President of the Ladies Scottish Climbing Club.

The hut stands at a height of 2050 ft. in Coire Leis at the foot of the great N.E. cliffs of Ben Nevis, and is built of local stone, lined with wood, to accommodate eight persons.

The opening ceremony took place on Monday, April 1, and was performed by Mrs. Inglis Clark, after the dedication by the Rev. A. E. Robertson, Vice-President of the Scottish Mountaineering Club. The cordial thanks of the Club were expressed by their President, Colonel G. T. Glover, A.C.

A large company was present including representatives of the Alpine Club (Mr. W. N. Ling, Vice-President), Yorkshire Ramblers, Rucksack Club, Fell and Rock Climbing Club, Ladies Scottish Climbing Club, Ladies Alpine Club, Pinnacle Club, etc.

Tea was served in the hut after the ceremony and in the evening Dr. and Mrs. Inglis Clark were entertained to dinner in Fort William by the Scottish Mountaineering Club in acknowledgment of their generosity.

'Guida dei Monti d'Italia': ALPI RETICHE OCCIDENTALI. A new edition of Part II, *Albigna-Disgrazia*, is to be prepared by Count Aldo Bonacossa. This was needed very badly, and a happier choice of Editor could not have been made.

The height of the BIETSCHHORN.[1]—M. Montandon writes: 'I have received a letter from the Military Topographical Bureau as follows: "We have remeasured in 1924 and 1926, the height of the Bietschhorn above sea-level. The summit is 3934·2 m., the S. (snow) peak is 3932·4 m., the N. peak is 3914 m.—these are the exact heights above the level of the sea. To bring these sea-level heights in accordance with the Siegfried map (based on the height of the Pierre de Niton, Geneva) there are 3·26 m. to be added. The height on the map (3953 m.) is therefore 15·5 m. too high and was based on a measurement made in 1836 and not properly verified."'

'The height of 4002 m. "quoted by some persons is probably due to individuals in the Lötschenthal desirous by all manner of means to possess a summit of 4000 m."'

Professor ALBERT HEIM attained his eightieth birthday on April 12 last. We wish him many happy returns of the day.

PIZ CENGALO.—It is understood that the guide Walter Risch with a Swiss party repeated the ascent of the great N. face ('A.J.' **37**, 149; 152–3), last August. 1928 was one of those exceptional

[1] *Cf.* Mr. Thomas's paper in the present number.

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summers that *might* render this expedition justifiable, but the summit was reached only at 19.00 hrs.

Risch also made the *first* ascent of the W. buttress of the Ago di Sciora and repeated the ascents of the E. arêtes of the Torrione del Ferro ('A.J.' **39,** 316–7) and Ferro Centrale, E. peak ('A.J.' **27,** 446).

Mr. H. F. MONTAGNIER, with reference to *Guides de Montagne* by Louis Spiro,[2] requests us to state that the incident described on pp. 128–9 is fantastic. Mr. Montagnier has never crossed the Alt Weissthor nor any other Weissthor.

The Editor 'A.J.' gratefully acknowledges receipt of £24 from various members of the Club, old friends of CHRISTIAN KLUCKER, towards the cost of a grave-stone to be erected to his memory by the S.A.C. at Fex.

The new German film of the MATTERHORN DISASTER of 1865.—All mountaineers, and especially the Alpine Club, owe a debt of gratitude to Dr. Heller for his strong and eloquent protest against the exhibition of this film published in *Die Alpen*, March 1929 [pp. 35–6].

GUIDE DES ALPES VALAISANNES—Col du Collon to Col Théodule. This new (French) edition, long eagerly awaited, is being published shortly. M. Marcel Kurz, the editor, informs us that it should be ready in May (1929). The format is the same as for the others of the series, about xxx + 350 pages, but printed on lighter paper. Publishers: Payot & Cie., Rue de Bourg, Lausanne. Price *ca.* 10 fcs.

The AUSTRIAN ALPINE CLUB, founded in 1878, celebrated its Jubilee at the end of last year. The Club has always contained among its members many of the names best known among the *élite* of mountaineers, past and present. Mindful of the invariable courtesy of its members to ourselves and of the old and tried friendship which has existed between us, the Alpine Club transmits to the Austrian Alpine Club its most cordial congratulations and good wishes.

Mr. Allston Burr writes to Captain Farrar shortly before his decease: '. . . We feel a lack in our household because we have not heard from you for such a long time. Perhaps I can draw your fire by criticising your beloved "A.J." The last number (an extraordinarily interesting one, I think) has another of those delightful letters of Miss Bell. On p. 240, note 6, is a reference to

[2] Lausanne, 1928.

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"A.J." **38,** 298. This is Colonel Strutt's obituary notice of Miss Bell. The first line of the last paragraph on p. 298 begins with the words "The LAUTERAARHORN-SCHRECKHORN *traverse* was," etc. Turning to "A.J." **21,** 270, the account at the time, the descriptive heading used is "THE LAUTERAAR-SCHRECKHORN *arête*." Now my criticism is that as Miss Bell at the time in question did not climb the Schreckhorn, the phrase "Lauteraarhorn-Schreckhorn traverse" is misleading. Colonel Strutt has got this phrase firmly fixed, however, as he uses it again in note 9 at the bottom of p. 243.'

On receipt of this letter, I wrote to Heinrich Fuhrer and received the following (English) reply:

GSTAAD.
April 16, 1929.

'. . . Miss Bell, my brother Ulrich and I climbed the Lauteraarhorn from the Strahlegg up the steep rocks from where we followed the whole arête right over into the Schrecksattel without going round a single gendarme. As we had climbed the Schreckhorn in 1901, there was no need to climb it again. . . .'

Mr. Burr is consequently perfectly right and the expedition should have been described as the Lauteraarhorn-Schreckhorn *arête*, or, better still, as the 'N.W. arête of the Lauteraarhorn.'

I was under the impression that Miss Bell had climbed both peaks on July 24, 1902. As Captain Farrar once wrote in the JOURNAL: I am delighted to find such critical readers!—E. L. S.

For distinguished cartographical work in Norway, Mr. HOWARD PRIESTMAN has received from the Norske Turistforening their highest distinction, the 'Turist-Knappen i Gull.'

RECORDS OF THE ALPINE CLUB.—Herr V. Hassreidter writes: 'I have been presented with some pages of a very interesting book (strangers' book of an inn in Switzerland) giving some original inscriptions made by some very well-known English gentlemen (members of the A.C.) in the years 1864–5.

I believe the inn (chalet-hôtel) was situated at (?) Zinal; this inn has been burnt down, but some pages of the book have been fortunately saved.

For instance, I find the following inscriptions, which I give you in the original text:

1864.

Aug. 16.	James Fletcher C. D. MacCarthy F. W. Daniel (or Dammel ?)	From Evolena by the Col de Torrent and Col de Sorrebois [*sic*].
Aug. 18.	Leslie Stephen F. Crauford Grove Reginald MacDonald	From Zermatt by the Trift-joch.

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1864.

Aug. 21. The above party ascended the Diablons, leaving this hotel at 8.15, arriving at the summit at 1, and returning to this house at 3.45. The excursion presents no difficulties of any kind whatever. *N.B.*—The summit of the *Gabelhorn* is only just visible from the Diablons. The Rothhorn is the conspicuous mountain in the foreground attended to by Mr. Sedley Taylor.

Aug. 22. Crauford Grove } Ascended the *Rothhorn* (the first
Leslie Stephen } ascent).
Left this house 1.50 A.M., followed the route to the Triftjoch till above the icefall of the Durand Glacier, then turned by the left, and reached the col overlooking the Moming Glacier at 7.55. Reached the summit by the N. side at 11.15. The last two hours of the route lay over rocks of greater difficulty than either of us remember to have seen elsewhere. Returned to the house at 6.45. Guides: Melchior and Jacob Anderegg of Meyringen, both of whom behaved admirably. (Mr. Macdonald was unfortunately prevented from accompanying us by illness which confined him to the house.)

Aug. 25–26. P. P. Falkner, A.C., from Sierre to Zermatt.

Remarks by Ed. Whymper. Ascended the Grand Cornier, the first ascent. Left the hôtel at 2.45 A.M. Climbed by the rocks and snow to a point in the ridge to the N. of the Cornier, close to the base of the final peak; cut steps up this and passed by some outcropping rocks to the W. of the arête and parallel to it, reached the summit at 9.15. The descent occupied 3½ hrs. Guide: Franz Biener of Zermatt. Mr. Moore found the peak inaccessible when he tried it, July 16. We found new snow but in excellent condition.

[On the left side of this inscription, a year after, Mr. Edward Whymper makes the following remarks (just one month before his ascent of the Matterhorn.) Mr. Whymper writes:

'This ascent, I am told by Franz Biener, has not been made. The peak referred to was the Pigne de l'Allée, a much inferior summit. The party arrived in a cloud, and believed themselves to be on the top of the Grand Cornier, but afterwards found in crossing the Triftjoch that they had been mistaken.

'(Signed) EDWD. WHYMPER
15/6/65.']

1864.

Sept. 7. J. S. Gibson (?) stayed (?) at this place two days, and was satisfied with the hotel as far as the civility of the people went, but found some inhabitants in the bedroom.

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1864.
Sept. 10. Emil Wick von Basel de Luc à Evolène.
„ 14. Edmund Fellenberg, S.A.C., Zermatt nach Evolène.
„ 14. B. Studer, professeur à Berne. Zermatt à Evolène.
1865.
June 15. Edward Whymper, from Turtmagne [*sic*] by Forcletta pass. To Evolena.
July 6. Lord F. Douglas by Trift Pass from Zermatt. After two unsuccessful attempts upon the Gabelhorn from Zermatt, I came here with Peter Taugwald to attempt it from this side. As we were coming over the Trift and as Peter had just finished examining the Gabelhorn and had said we should get up easily from this side, we heard a noise above us and beheld a flag on the top of the Gabelhorn and three men. I do not know where they ascended from. It was not from Zermatt or Zinal. The first attempt we made from Zermatt was made by mounting the Hinter-Gabelhorn and thence by the arête connecting it with the Obergabelhorn; but after 14 hours' hard work we found it impossible to proceed. In the second we ascended to another peak of the Gabelhorn about 13,000 ft. in height, but the arête connecting it with the Obergabelhorn was found also impracticable. This summit has no name, but why I cannot understand as it is very nearly as high as the Gabelhorn. It lies immediately to one's right in crossing the Trift from here. At the very summit there is an ice wall about 15 ft. high which is very thick and overhangs, which took us 20 minutes to cut through and with a telescope from Zermatt the hole can be seen through which we crawled on to the summit. I should recommend the ascent of this 'mountain without a name' [3] as there is some very nice rock-climbing and a steep ice-slope leading to the summit and a magnificent view.

Guides: Peter Inäbnit (Grindelwald), Peter Taugwald (Zermatt).

July 7 or 8. Left here to attempt the ascent of Gabelhorn.[4]

These are the most important and interesting original inscriptions on these pages.'

[We are very grateful to Herr Hassreidter for his courtesy in sending us these interesting old records.—*Editor* 'A.J.']

[3] Wellenkuppe; the appropriate name was given by Sir Martin Conway.

[4] The attempt succeeded; first ascent from Zinal, July 7, 1865. The *first* ascent, referred to above, was from *Zermatt*, July 6, 1865, by Messrs. A. W. Moore and Horace Walker with Jakob Anderegg.

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WINTER ASCENTS. GRAND ROC NOIR (*Graians*). 3584 m. = 11,579 ft. (1 : 50,000 French map). March 30, 1929. Mr. C. F. Meade with Pierre and Alphonse Blanc. Party left Lanslevillard at 02.35, reached summit at 09.25 (35 mins. halt). Descent over softening snow occupied 3 hrs. 40 mins., including 1¼ hrs. halts. Weather perfect and most of party were in shirt sleeves. Ski not taken.

We learn that Herr H. Hoerlin with companions has accomplished the following climbs during March, 1929 :

(1) AIGUILLE NOIRE DE PÉTÉRET.—*First* winter ascent, 31 hrs., including one bivouac.

(2) Dôme Hut—AIGUILLE DE BIONNASSAY—DÔME DU GOÛTER—Vallot Hut.

(3) Vallot Hut—MONT BLANC—MONT MAUDIT—Col du Midi—Col du Géant.

(4) March 21, 1929.—AIGUILLE BLANCHE DE PÉTÉRET, *via* S.E. arête, *first* winter ascent.

Times : Gamba Hut dep. 04.05
Summit arr. 10.30
Gamba Hut arr. 18.10
Courmayeur arr. 21.30

These guideless ascents will be reckoned as among the greatest winter expeditions accomplished in the Alps. The ' times ' on the Aiguille Blanche de Pétéret are almost incredibly fast and prove that weather, conditions and party must have been superlative.

MATTERHORN.—M. Montandon informs us that the ascent, this winter, has been accomplished *twice*. (We now hear of at least four more ascents, including one by the Italian ridge and two more at Easter.)

GESPENSTERHORN, 3784 m. = 12,415 ft. Dec. 29, 1928.—Messrs. G. G. Macphee and F. S. Smythe. On ski. Left Jungfraujoch and mounted to Lauithor. Few crevasses and rope unnecessary. Easy slopes to top. Descent in about 20 min. to Jungfraufirn on perfect powder snow. Intense cold, — 25° C. to — 30° C. and a strong N.W. wind. This little peak is not mentioned in the *Alpine Ski Club Guide*, but it is the best short expedition—2 easy hours—from the Jungfraujoch and is a fine view point.

MÖNCH, 4105 m. = 13,468 ft. Dec. 31, 1928.—Same party. On ski to Ober Mönchjoch. Then on foot: crampons. Summit ridge was heavily iced and corniched. Summit in 3 hrs. from Jungfraujoch. Weather good. View from Black Forest to [?] Appenines [5] and Mont Blanc to Ortler. (Attempts on Jungfrau and Gross Fiescherhorn were frustrated by blizzards.)

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[5] Possibly the Ligurian Alps.—*Editor.*

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Attempt on EIGER, 3974 m. = 13,040 ft. Jan. 4, 1929.—Messrs. T. Y. Kagami and F. S. Smythe. On foot. Left Eiger Glacier Station at 05.30. Ascended Eiger Glacier to foot of Mönch. Thence up well defined snowy zig-zag corridor leading through ice fall. No difficulty encountered and crevasses safely bridged. North Eigerjoch 10.15. Left 10.45 and climbed steep hard snow to S.W. arête of Eiger, but found rocks hopelessly iced. Traversed on to W. face over steep new snow covering smooth, icy rock slabs—a most dangerous business with no security. Gained snow, but found it in avalanchy condition and were forced to turn back about 400 ft. from the summit. Returned to N. Eigerjoch at 14.30. Left 15.30 and arrived Eiger Glacier station at 17.00. This is the first time that the Eiger has been attempted by this route in winter. In its lower portion the route is much exposed to ice avalanches, and two enormous ones swept the party's tracks in both cases for about 300 yards. It is even more dangerous than the Grépon or Charmoz *via* the Nantillons Glacier. Great cold was experienced on this sunless northern side, and both members of the party suffered from slight frostbite due to too tight crampon straps.—F. S. S.

WEATHER REPORTS IN SWITZERLAND.—Daily reports on the weather and conditions prevailing at a large number of winter resorts in Switzerland, Tyrol, etc., are sent by (?) British correspondents to the London daily press. These make amusing reading, often in direct contradiction with the admirable Swiss reports issued from Zürich every morning at 7 A.M. Since these reports necessarily reach the resorts concerned some 36–48 hours later on arrival of the said London papers, no great harm is done.[6]

The following are taken from the *Times*; January 4, 1929:[7] ANDERMATT Cloudy and *cold*, strong *Foehn* wind, heavy snow falling, 3 ft. of snow on N. slopes, deep *powder* surface, *wind-swept* in patches, 5° of *frost* (!).

January 17. SILS. Cloudy and cold, snow *wind-swept* in patches, 2 ft. deep on N. slopes, 29° of frost. SILS MARIA. *Perfect* conditions, 2 ft. of snow, 31° of frost.

(Sils—presumably Sils Baselgia—and Sils Maria are 400 yds. apart and on the level).

THE BRITISH 'THREE-THOUSANDERS.'—Mr. J. A. Parker has just completed the ascent of all the mountains in the British Islands which are 3000 ft. or over in height, his last having been Tryfan in North Wales, which he climbed on April 19, 1929. The total

[6] The 'British' report posted up locally is without any value—so far as our experience is concerned.

[7] The italics are ours.

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number of such mountains is, in his opinion, exactly 300, made up as follows:

In Scotland	277	(being 276 as per the S.M.C. List of 1921, plus one which has been discovered recently).
In England	4	
In Wales	12	
In Ireland	7	
Total	300	

As there are no official lists of what should be regarded as individual mountains in the last three countries, Mr. Parker made a point of visiting all the 3000 ft. tops in them and has included in the above numbers only those which he considers should be classified as separate mountains.

We deeply regret to report the deaths, during March, of Messrs. H. E. M. Stutfield (1886) and Val. A. Fynn (1911), two very distinguished members. Obituaries will appear in the November Journal.

HIMALAYAN NOTES.

THE HIMALAYAN CLUB.

The May number of the Alpine Journal contained a copy of the letter that led to the founding of the Himalayan Club. Almost every one to whom the letter was sent responded, and 127 became founder members. Among them were Lord Irwin, Viceroy and Governor-General of India; Field-Marshal Sir William Birdwood, Commander-in-Chief in India; Sir Malcolm Hailey, then Governor of the Punjab and now Governor of the United Provinces of Agra and Oudh; the Most Reverend Foss Westcott, Metropolitan in India; General Sir Alexander Cobbe, G.O.C. Northern Command; the Surveyor-General of India and the heads of the scientific departments that are interested in the Himalaya; political officers and soldiers; survey officers, scientists and forest officers; painters and photographers; and many of those whose journeys in the Himalaya and in Central Asia have been distinguished, including Their Royal Highnesses the Duke of the Abruzzi and the Duke of Spoleto, Lieutenant-Colonel F. M. Bailey, Major L. V. S. Blacker, Brigadier-General the Hon. C. G. Bruce, Captain J. G. Bruce, Brigadier-General Sir George Cockerill, Professor J. Norman Collie, Sir Martin

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Conway, Maggiore Cav. Sir Filippo De Filippi, Mr. D. W. Freshfield, Mr. J. de V. Hazard, Colonel Sir Thomas Holdich, Lieutenant-Colonel C. K. Howard-Bury, Mr. C. F. Meade, Lieutenant-Colonel E. F. Norton, Lieutenant-Colonel Sir Frederick O'Connor, Mr. N. E. Odell, Lieutenant-Colonel R. C. F. Schomberg, Mr. E. O. Shebbeare, Mr. C. P. Skrine, Sir Aurel Stein, Colonel E. L. Strutt, Mr. P. C. Visser, Major E. O. Wheeler, and Lieutenant-Colonel Sir Francis Younghusband.

The Club has now been registered, and 58 ordinary members have been elected, including the rulers of several Himalayan States.

The principal objects of the Club are thus stated in the Memorandum of Association:

(1) To encourage and assist Himalayan travel and exploration, and to extend knowledge of the Himalaya and adjoining mountain ranges through science, art, literature, and sport;
(2) To collect, classify and publish descriptions of Himalayan routes and other information relating to the Himalaya;
(3) To establish local or sectional headquarters of the Club in such other parts of India or the Himalaya as the Club may think proper.

The Club is being organized to carry out these objects. Local secretaries are being appointed in the more important Himalayan districts, who will assist and advise members in all matters relating to travel in their districts, including transport, shikaries and porters, equipment and supplies, and costs.

More detailed information about routes will be supplied by Major Kenneth Mason, 13 Wood Street, Calcutta, the Honorary Editor of the Club's publications, and by the Assistant Editors, who will be in detailed charge of different districts. A second edition of Volume I. of Montgomerie's 'Routes in the Western Himalaya,' revised and enlarged by Major Mason, is now in the press. Volume I. covers Gilgit, Kashmir, Punch, Ladakh, and the routes to Central Asia from these districts. Information is now being collected and classified for the preparation of a second volume, dealing with Chamba, Lahoul, Spiti, Kangra, Kulu, Bashahr, Tehri-Garwhal, and Kumaon; and it is also proposed to compile a similar Route Book for the Eastern Himalaya and the northern ranges of Assam and Burma. These Route Books, it is hoped, will be the basis of a series of more detailed District Guides. Notes or diaries of Himalayan journeys, or any first-hand information about any part of the Himalaya, will be gratefully received by the Honorary Editor.

It is difficult for the officers of the Club at Simla and Delhi to keep in touch with members scattered over a country of such vast distances as India. On the other hand, it was considered at the inaugural meeting of the Club that a sectional organization would be too elaborate for its small membership and might be disintegrating at this stage. It was decided, therefore, to appoint local

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correspondents at the more important centres, who would advise members about Himalayan travel generally, assist them in their preliminary arrangements, and keep them informed of the activities of the Club.

G. L. C.

EXTRACTS FROM THE REPORT OF 1928.

'A matter of great importance to the future of the Club, which was also discussed at the inaugural meeting, was our relations with the Mountain Club of India. It was then decided that the Mountain Club should be asked whether they would be willing to amalgamate, and I was authorized to approach the Mountain Club accordingly. I am glad to be able to tell you that an extraordinary General Meeting of the Mountain Club held in Calcutta on the 14th December last, agreed that amalgamation was desirable "for the benefit of the common aims of the two Clubs"; and amalgamation was finally arranged on the following terms:

'(1) There should be one Club called the Himalayan Club.

'(2) All members of the Mountain Club should be elected *en bloc* as ordinary members of the Himalayan Club.

'(3) Members of the Mountain Club not favouring amalgamation and not wishing to join the Himalayan Club should be refunded all their subscriptions.

'(4) Life members of the Mountain Club should become life members of the Himalayan Club on payment of Rs. 88, the difference between the life subscriptions of the two Clubs; or should become ordinary members on repayment of the difference between the life and annual subscriptions.

'(5) The annual subscription to the Himalayan Club should be paid by members of the Mountain Club from the 1st January 1929.

'(6) The Committee of the Himalayan Club should propose at this General Meeting the election of Honorary Local Secretaries for Calcutta and Darjeeling under Rules 32, 34, and 35 of the Rules of the Club.

'(7) The Committee of the Club should appoint a Sub-Committee for Calcutta under Rule 41 (12) of the Rules of the Club for the purpose of furthering the objects of the Club in the provinces of Bengal and Assam and in the Himalaya east of Nepal, and to exercise such powers as might be delegated to it from time to time by the Committee of the Club.

'(8) In pursuance of these objects, and with due regard to the financial position of the Club and all claims and requirements, and to the distribution of membership, an annual grant should be made to be expended by the Calcutta Sub-Committee, subject to budget control by the Club in General Meeting, and to audit by the Auditors of the Club, under Rule 44 of the Rules of the Club.

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'(9) The Calcutta Sub-Committee should be required to submit to the Honorary Treasurer of the Club on the 1st January in each year—

(*a*) a statement of its accounts for the past year, for incorporation in the accounts of the Club to be presented at the annual General Meeting in the following February, under Rule 44 of the Rules of the Club; and

(*b*) an estimate of its requirements for the following year.

'(10) Any existing funds of the Mountain Club should be retained as a local fund for use at the discretion of the Calcutta Sub-Committee.

'All members of the Mountain Club have now been elected by the Balloting Committee to be ordinary members of the Himalayan Club. The Committee of the Club will to-day propose that Mr. Alexander Marr, Vice-President of the Mountain Club, should be elected Vice-President of the Himalayan Club; that Mr. G. B. Gourlay, the Honorary Secretary of the Mountain Club, should be elected Honorary Local Secretary in Calcutta; and that Lieutenant-Colonel H. W. Tobin, a member of the Mountain Club Committee, should be elected Honorary Local Secretary in Darjeeling. They will also propose that three other members of the Mountain Club Committee, Mr. J. S. Hannah, Mr. H. Newman and Mr. C. R. Cooke, should be elected members of the Balloting Committee. Some of us, including our President, Brigadier Wilson, Major Mason, Mr. Ruttledge and myself, are already members of the Mountain Club. Thus it may be expected that after to-day's election, seven members of the Committee and five additional members of the Balloting Committee will be members of the Mountain Club. From to-day on the two Clubs will be one single organization, strong and united to carry out our common objects.

'I know you will cordially welcome the 49 new members whom amalgamation has brought to us. Our membership has now reached 250. There were 127 founder members, and 74 ordinary members, apart from the members of the Mountain Club, have been elected. A steady stream of proposals continues. The last ballot was only a week ago, and already there are 14 more candidates to be balloted. And as the value of the Club is recognized—when it is found how easy it really is to go to the Himalaya—I am confident that the number of our members will continually increase.'

G. L. C.

Mr. P. C. Visser and Mrs. Visser-Hooft, accompanied by the guides Franz Lochmatter and Wyss, have left for another expedition in the Himalaya. Mr. Visser's intention was to remain in India for two years.

The Italian Expedition to the Karakorams arrived in India in March. Their advance baggage has already reached Askole.

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NEW ZEALAND NOTES.

THE summer of 1927–28 was memorable for a long period of fine weather, in consequence of which more ascents than usual were made. Premature opening-out of schrunds and crevasses, however, added to the difficulty of the greater climbs; a great advance was made in the use of crampons.

Mt. Cook was ascended three times by the Linda route:

On December 19, 1927, by three guides—Vic Williams, Alf Brustad, Jack Pope—in 19 hours. This party established a record by being absent from the Hermitage only three days.

On January 4, 1928, by Mr. Eric Lewis, Vic Williams, and Jack Pope.

On January 12, 1928, by Mr. R. Aubin and Jack Pope.

The low peak of Mt. Cook was also ascended, after long neglect, by Mr. B. Murray and Vic Williams. Two ascents were made of the Minarets and Footstool, and one each of Malte Brun, Hamilton, and Darby.

Professor and Mrs. Algie, with Alf Brustad and K. Grinling, made a very successful expedition up the Murchison Valley. They made the first ascent of Bell Peak (9250 ft.) and of two smaller unnamed peaks to the north of it, and the second ascent of the two-peaked Mt. Hutton (9297 ft.). The first winter ascent of Elie de Beaumont (10,200 ft.) was made on September 13, 1928, by Mr. H. Coxhead and Jack Pope; they used skis to Lendenfeld Saddle and crampons from there to the summit.

FROM THE HERMITAGE TO THE W. COAST *via* FYFE'S PASS—A FIRST CROSSING.

Fyfe's Pass (7100 ft.) lies at the head of the Mueller Glacier and leads into the Spence Glacier near the head of the Landsborough River, which flows S. for 35 miles to join the Haast River.

In 1893 Messrs. Fyfe and Geo. Graham crossed the pass and went 3 miles up Landsborough River to McKerrow Glacier, from which they saw the Great Douglas Glacier. They returned to the Hermitage without trying to get through to the W. coast.

In 1894 A. P. Harper and a Maori, starting from the W. coast, completed the first exploration of the Karangarua River (see his 'Pioneer Work in the N.Z. Alps'); they crossed the pass at its head and dropped into the McKerrow Glacier, from which the Landsborough rises, and explored the southern bank of that river to its junction with the Haast River, and in so doing crossed the Spence Glacier, down which Fyfe had come the previous year.

In 1908 Dr. Bell, Government Geologist, with Jack Clarke as

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guide, tried to cross to the Hermitage from the W. coast by going up the Karangarua River, relying on information given to them by Harper; they failed to make the crossing and returned to the coast (see his 'Wilds of Maoriland').

In December 1928 Harper, his daughter Rosamond, who has now three seasons' work to her credit, S. A. Wiren, who has had a little previous Alpine work, R. Lucas and C. Turner-Williams, who had neither of them been in the Alps before, left the Hermitage on the 20th for the Mueller Hut; on the 21st they crossed Fyfe's Pass and also the pass from McKerrow Glacier into the Karangarua River, where they slept on the grass above the bush-line.

The 22nd, 23rd, and 24th were spent in descending the Karangarua River. The work involved the somewhat difficult descent over snow and rock of Fyfe's Pass and much big boulder travelling combined with deviations into heavy bush. The great gorge of 1½ miles through very precipitous country took 13 hours; here the river descends 1200 ft. over two very impressive cataracts. Habitation on the W. coast was reached on the evening of the 24th.

The through journey should not be attempted without specific instructions, as the best route down the river is easily missed, and any party caught in bad weather in such inaccessible country would be in grave danger of starvation.

The above party were favoured with five days of perfect weather, and Harper's knowledge of the river, but even under these conditions they had to carry heavy packs.

Mr. Samuel Turner and party (including his son) in December made the first ascent of Mt. Hooker (8644 ft.). This is a fine rock peak and lies at the southern end of the Hooker Range, which bounds the Landsborough River on its northern side. There are three other fine summits on this range yet unclimbed. This is the first expedition for climbing purposes on the Hooker Range, though the surrounding country and valleys are well known to deer-stalkers, and many fine heads are secured every season.

The same party also ascended Mt. Brewster at the head of the Makarora River. The peak is 8265 ft., and this is its first recorded ascent, though the surrounding country was explored and mapped many years ago.

The same party, with the addition of Mr. Miller and Dr. Bathgate, also made the first ascents of Castor (8286 ft.) and Pollux (8347 ft.) from the Wilkin River on the Lake Wanaka side. These are heavily glaciated, and were first named and discovered by C. E. Douglas in the 'eighties, when he made the first exploration of the Waitoto River from the W. coast (see N.Z. Government Survey Reports).

The country in this portion of the Alps carries exceptionally large icefields and glaciers considering its low altitude; it is still difficult to approach and is not opened up with formed tracks, but

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it is all good deer country and has been well stalked for some years. The deer tracks make it much easier of access in the lower levels than in its natural state.

Captain H. E. L. Porter has already put in some time at the Hermitage, climbing the Minarets from Malte Brun Hut. Porter has taken some trouble to assist the local guides with many useful hints, and in so doing has helped them materially.

Captain Porter writes: . . . 'The whole of January [1929] was one long series of storms, in consequence of which during the 22 days I was there [in the Alps], I only got up one second-rate peak, Aiguille Rouge, which I had been up before. Mt. Cook was ascended three times, twice in very bad conditions, the parties concerned taking 25 hrs. and 20 hrs. The third ascent was in fair conditions, after we had left, and was achieved in record time (14½ hrs.). The traverse of the three peaks, which I was longing to do with my wife and Vic Williams, the best guide here, was never remotely possible.

'I returned alone in February and we had a spell of wonderful weather, but my luck was out. However, I did get one really fine expedition, the *first* ascent of Mt. Teichelmann (*ca.* 10,400 ft.) with Miss Gardiner—daughter of Frederick Gardiner—and Vic Williams. Mt. Teichelmann is a rocky point between the Silberhorn and Dampier, and the last ten-thousander on the main Divide to remain unclimbed. To approach it, the only sound route is over the top of the Silberhorn and along the ridge. Unluckily we had very bad snow conditions on the descent: a snow slope peeled off under our feet and we went with it for about 100 ft. Miss Gardiner and I escaped unhurt, but Williams strained some muscles in his neck and chest rather badly, and we had an anxious time for many hours getting off the mountain.

'Ten days later we attacked Elie de Beaumont, but were completely beaten by the lower icefall. While struggling to surmount one huge break we were bombarded from above by a volley of ice, one lump of which caught my leg and rendered me very lame: we were only within reach of the thing for 2 or 3 minutes and nothing fell before or after the time we were within seeing or hearing range, so it was really a case of rank bad luck.

'The next day was the one perfect day of the year, and I was incapacitated! However, on the following day, I struggled up Mt. Green, a sporting climb, and that was the end of my time . . . so in 50 days of climbing I only achieved three new summits . . . but we are planning to return next year.'

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CANADIAN AND AMERICAN NOTES.

AMERICAN MEMBERS OF THE ALPINE CLUB.

A DINNER and meeting of the Association was held at the University Club, Montreal, on Saturday, May 19, 1928.

Members present were: Dr. J. W. A. Hickson, Professor A. P. Coleman, Dr. Wm. S. Ladd, and Messrs. Allen Carpe, Howard Palmer, Norman R. Read, Henry S. Hall, Jr., and, as a guest, Mr. H. P. Lambart.

After dinner Dr. Hickson presided at a brief business meeting. Mr. H. S. Hall was asked to serve as Secretary *pro tem.* in the absence of the Hon. Secretary, Mr. de Villiers-Schwab. He referred to the previous meeting held at Montreal in October 1925, when five members of the Logan party had been present, and was glad to see four of these here again. He was glad to see again Professor Coleman, one of the three hon. members of the A.C. living in North America. He spoke of the chairman, Mr. Burr, as still a very active climber, of whom one often heard when climbing in the Alps. A letter was read from J. M. Bell regretting his absence and suggesting a meeting at Ottawa at some future date. The present officers of the Association (viz. Chairman, Allston Burr; Vice-Chairmen, J. W. A. Hickson, W. H. Workman; Secretary, H. B. de Villiers-Schwab) were re-elected.

Professor Coleman gave an extremely interesting *résumé* of some of his earlier explorations in the Canadian Rockies and Selkirks, illustrated by lantern slides from both photographs and sketches which he had made at the time. He spoke first of his trip in 1884 over the Kicking Horse Pass before the completion of the Canadian Pacific, and over Selkirk tote roads to the Spillamacheen, and in 1885 down the Columbia, where fine views were obtained of the northern Selkirks. While he showed a sketch which he had made there of the Adamant group, Mr. Palmer said that it was a remarkably exact portrayal of the group and pointed out his routes on Mt. Adamant, Mt. Austerity, and Pioneer Peak. He told of meeting Mrs. Shaffer (now Mrs. Warren) on his trip down the Sumwapta, which he said had been named by one of his men, the word meaning 'violent river,' and those present who had had experience with this stream could readily testify as to the appropriateness of the name.

While speaking of his 1908 trip to the Brazeau, both Palmer and Carpe remarked on the accuracy of his sketch made of the Brazeau Glacier, and pointed out in the sketch Mt. Brazeau, Mt. McLeod, and other adjacent peaks since named and climbed by them in 1923.

In conclusion, Professor Coleman spoke of a journey to Mexico in 1905 during which Orizaba was climbed. This peak of 18,500 ft., he said, is perpetually snow-capped for at least its upper 2500 ft., but carries no glaciers.

Mr. Allen Carpe told, with fine lantern slides, of his 1927 trip

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into the Cariboos with Professor Rollin Chamberlin. Alighting from the train at Shere station of the Prince Rupert line, they proceeded up Kiwa Creek and camped 2 miles above the snout of the large glacier on the E. side of the valley. In spite of abominable weather for two weeks, during which precipitation was recorded every day, and the largest dry period was 12 hours, they climbed Mt. Kiwa and Mt. Welcome, over 11,000 ft., and obtained very fine photographs. One photograph of Mt. Welcome showed Mt. Robson distinctly in the background over 40 miles away in the Rockies. As with previous pictures made in this district, Carpe obtained excellent contrasts by the use of a colour screen, and many of the lantern slides were very effectively coloured, the whole giving an unusually clear and striking impression of this, until very recently, little known district.

After considerable informal discussions on various topics brought out by the evening's programme, the meeting adjourned at about midnight.

ACCIDENTS.

The Accident on Aconcagua.

On Monday, December 17, 1928, I accompanied Señor Herberto Guillermo de Magalhaes Hafers, of Santos, Brazil, with the guides Lobos and Pasten, on a climbing trip to Aconcagua.

At 4.15 p.m. the same day we reached a camp site at about 4000 m., and found there a sealed bottle containing a certificate, which had been deposited by the guides who had been sent out as a search party for Captain Marden in the month of July last, and which constitutes proof that the search party had reached so far.

A tent was put up and the night passed at this place. The next morning at about 8 a.m. we left camp and continued our journey up the mountain-side, and after travelling some 15 mins. on mule-back the guide Lobos, who was in front, pointed out a green package lying in the valley below our path, and, just above it, what looked like a body lying on a pinnacle of ice about 4 ft. high. We descended and found that it really was a body, and that the green package was a sleeping-bag. The guide Pasten was thereupon sent back down to Inca for assistance, and I, together with Señor Magalhaes and the guide Lobos, continued our ascent to the 5500 m. level, where we passed the second night.

On December 19 we went up as far as we could get, and descended again that night to our first camp at 4000 m., near the body. The next day at about 10 a.m. we heard animals coming up the valley, and in a few minutes a party on mules appeared, among them being Señor Apostolo, manager of the hotel at Inca, two members of the police force, the guide Pasten, and Mr. John Munro, the only member of the party besides myself who is fluent in English.

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The whole of the two parties then proceeded to the spot where the sleeping-bag was lying; it was opened, and the contents inventoried in the presence of all. The whole party then climbed the slope towards the body, which was lying on an ice pinnacle some 50–70 m. up the slope in the obvious path of an avalanche. The body was lying face downwards, fully clothed except for hat, gloves, and the right boot, which was missing. It was immediately recognised by Señor Apostolo of the Inca Hotel and the foreman of the Camp Section of the Hoteles Sud-Americanos, who had both known Captain Marden in July of last year when he was staying in Inca, and they have duly signed a declaration of identification.

The body was then examined and found to have a very severe wound in the head and, obviously, a broken leg, besides other injuries, but, there being no doctor present (or in Inca), no proper examination could be made.

The body was then removed from the pedestal and taken down the frozen slope to the river, where a mule was waiting to transport it. We then reached the slope above, where the body had been lying, and found one ski, supplied by Messrs. Fortnum and Mason of London.

So far as we can judge, the body was found exactly where, on the 'Fitzgerald' map, are marked the figures 13.534 underneath 'Glacier A.' As already stated, the slope was searched, but no trace was found of any instruments, cameras, rucksack, or the missing ski and boot, which may possibly lie in the frozen stream which runs underneath where the body was found. It is our opinion that Captain Marden was probably caught by an avalanche, quite possibly when he had made a bivouac and had removed one boot and ski, and was swept down the slope to the river and instantly killed. It is notable that the sock on the leg from which the boot was missing showed no signs that the boot had been forcibly torn off. The ski we found is slightly splintered, and the metal fastenings are broken away from the wood.

The search being concluded, the whole of the two parties were gathered together and left the spot for the 4000 m. camp, from whence we left for Inca at about 1 P.M. and reached there at 7 P.M.

The next morning, December 21, the body was buried in Puente del Inca cemetery, where several other English people are also interred.

May we mention the initiative and excellent organisation of Señor Apostolo and his guides, without which we could not have recovered the body.

(*Signed*) JOHN WILLIAM LANCE ORTIZ,
of the Transandine Railway.

(*Signed*) J. MUNRO,
Superintendent of the Pacific and European Telegraph Co.; Head Office, Electra House, Moorgate House, Moorgate, London.

M. F. RYAN.

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REVIEWS.

Mountaineering Ventures. By C. E. Benson. London: T. C. and E. C. Jack, Ltd., 1927. Illustrated. 6*s*.

MR. BENSON has satisfied very well the needs of the 'Real Adventure Series' by writing a book dealing with mountaineering on some of the greater ranges of the world. It should possess a wide appeal, especially to the adventurously minded youth of the country. The Alps, the Caucasus, Norway, Corsica, New Zealand, and Everest all find a place.

The method chosen is that of selecting passages from the literature of the craft, then commenting on and criticising the climbing details. This naturally limits Mr. Benson's own descriptive field, yet his comments and criticisms are often shrewd and to the point, whilst he is at great pains to explain his material and elaborate his points.

The most serious criticism we have to make is that the tragically sensational is introduced far too often. But we suspect that Messrs. Jack, the publishers, are more to blame on this point than is Mr. Benson. The public wants tragedy and the sensational—according to publishers—and it is up to Mr. Benson to supply it.

The story of the Matterhorn is told first, and includes some interesting character studies. Here the criticisms are severe. Publicity is always liable to distort the truth, and petty incidents of temper and temperament, that probably amounted to little in the minds of the actors—pardon the word—in this drama, are magnified out of all proportion. By no possibility could the stones dislodged from the summit of the Matterhorn by Whymper and Croz have struck the ascending Italians, and it is scarcely fair to impute to them a senseless attempt at homicide.

The title of the book demands that Alpine guideless climbing should be included. It is not. Perhaps Mr. Benson has no sympathy for the 'Ces Satanés Führerlose.' No mention is made of Mummery's magnificent and terrible 'venture' on the N. face of the Aiguille du Plan. Mr. Young's route on the Brouillard Ridge is described as a first ascent, though it was in reality only the first ascent from the Col Emile Rey. The first ascent was made by those admirable mountaineers the Signori Gugliermina *without guides*[1] direct up the W. face of the Pic Luigi Amedeo—a route still unrepeated. No mention is made either of their Innominata route up Mont Blanc or their splendid traverse of the Col de l'Aiguille Verte. Guideless climbs by such parties as Messrs. Wicks, Wilson, and Bradby, or Messrs. Raeburn and Ling find no place either, although excellent accounts have been written. Perhaps the most thrilling chapter is that describing Mr. Young's ascent of the S. face

[1] An excellent 'porter,' Joseph Brocherel, was present.—*Editor.*

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of the Täschhorn, whilst in addition his routes on the Grandes Jorasses and the E. face of the Grépon are admirably described.

We are glad to see Sir Seymour King's ascent of the Silberhorn included. This is a climb little known to the younger generation. Criticism of the 1899 Dent Blanche accident is unprofitable. This was a pure accident, and no one, necessarily ignorant of the facts, should have ventured to criticise the guides.

As one reads one finds oneself wishing that Mr. Benson had not subordinated his natural style or mutilated so many fine passages of others. This latter—an essential failing, perhaps—is distinctly irritating at times. Also, the reader should be allowed to make his own occasional criticisms without being told what to think.

The last chapter—Everest—is the best in the book. It describes concisely and restrainedly the epic 'venture' of mountaineering history.

If we ourselves have dared to criticise, it is because Mr. Benson has written a book well worthy of criticism. The task was a difficult one, but he has succeeded admirably. By his own confession the book was written for the 'man of the level pavement.' It is, however, well worthy of a place on the mountaineer's bookshelf as being a representative selection of some of the finest climbs ever accomplished. The pity of it is that the finest climbs are not always those most written about. There are a number of interesting illustrations which are as good as can be expected for such a moderately priced book.

Mountaineering. By Kaoru Tanaka. Pp. 278. Illustrated. Tokyo: S. Meguro & Co., 1927. $2.30 (4*s.* 3*d.*).

When the Japanese Alpine Club, which has lately attained its majority, was first founded the hope was expressed that amongst its chief activities would be the 'contribution of a worthy Somewhat to Alpine Literature.' This aspiration has been most creditably fulfilled, though it is a matter for real regret that since nearly all the writings of Japanese mountaineers are in their own very difficult language the outside world is almost entirely debarred from the pleasure and interest that are to be found in their pages. At the same time it seems fitting that, as opportunity offers, attention should be drawn to such publications as may serve to give an idea of the kind of work that is being done by our Japanese colleagues, whose aptitude with the pen is a worthy complement to their skill with ice axe or with ski.

The little volume before us is entitled 'Mountaineering,' and is by Mr. Kaoru Tanaka, F.R.G.S., Lecturer in Geography at the Kobe University of Commerce, and forms one of a series on 'Sport.'

Among other features, it affords an interesting example of a characteristically Japanese attitude towards mountains and mountaineering in its widest sense, in the case of the more thoughtful climbers to-day.

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Its four chapters are each divided into sections of a most comprehensive variety, of which the following are representative:

The right attitude of approach to mountains.
Mountains as the highest form of natural beauty, and mountaineering as the noblest form of sport.
A brief history of mountaineering.
Special features of the Japanese Alps, and of Alpine phenomena, winter and summer.
The technique of rock-climbing, with special reference to Mr. Yuko Maki's and other writings on the subject.
Winter mountaineering and ski-tours, with special hints for ladies.

One of the most characteristic aims of the book is to emphasize the desirability for Japanese mountaineers, while enjoying to the full the physical pleasures of their pursuit, of maintaining *mutatis mutandis* the agelong attitude of their forefathers towards the mountains themselves. For to these the 'everlasting hills' always served as the symbols of calm and peace, and as the abodes of august spiritual forces with which enlightening communion was possible for the serious mind and the inquiring spirit. Until European climbers, some thirty years ago, began to explore and draw attention to the wilder and sterner mountain forms in the regions now known as the Japanese Alps, it was the gentler and more gracious outlines of the symmetrical volcanic cones, such as Fuji-san and her several hundred satellites of varying dimensions, that made the most moving appeal, and those aspects of nature were most admired which suggested an atmosphere of untroubled repose. Here the author quotes the ancient Chinese aphorism: 'It is the benevolent man who admires the unchanging mountains, but the wise one who admires moving waters.'

His conclusion of the whole matter is this: The *pium desideratum* at which to aim is a *combination* of the views of the East and West.

Mount Olympus. By Francis P. Farquhar and Aristides E. Phoutrides Pp. x + 48. Illustrated and maps. San Francisco: Johnck & Seeger. 1929. $7½.

THIS is the first separate volume in the English language devoted to the most famous mountain of classical antiquity, and it is not unworthy of its subject. The book is beautifully printed from Granjon type on French hand-made paper. The illustrations include a photogravure frontispiece of the high summits, and four half-tones from photographs by Mr. Farquhar, one of which, 'South-Eastern Ridge of Mount Olympus from Skala,' has not previously been published. There are two maps: a reproduction of a quaint Ortelius engraving of 1590, and an outline map of modern Greece.

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It will be remembered that Messrs. Farquhar and Phoutrides ascended Skolion in 1914, and published an account of their expedition in *Scribner's Magazine* for November 1915, under the title 'With the Gods on Mount Olympus.' As this article has for long been out of print, it is satisfactory to find it reprinted (with the omission of a topographical note now rendered obsolete) in this volume. In addition we have now a useful section, entitled 'Historical Notes,' in which the climbing history of the mountain is dealt with in outline from the earliest times up to the present. In comparatively small compass Mr. Farquhar has succeeded in conveying to the reader all the essential facts.

It had been the intention of the two authors to produce a much larger volume on the mountain: a plan that was not completed owing to the death of Phoutrides some years ago. In the preface Mr. Farquhar pays high tribute to the qualities of his friend, who died at the early age of thirty-six. The volume includes a short poem by Phoutrides on 'Olympus.'

Mr. Farquhar has included an excellent bibliography, by far the best and most complete in existence, which would suffice by itself to make the book indispensable for future students of the mountain. Indeed, to sum up one's impressions, one might say that this is a book which it is a joy to possess; and which does for Mount Olympus very much what 'Auldjo' did for Mont Blanc almost exactly a century ago.

W. T. E.

'Mont Blanc again'[1]: Two new books.

Without going as far as the late Edward Whymper, we are not among those who consider this massif as 'the finest group of mountains in Europe.' To our mind the savage grandeur of Dauphiné is without rival. Be that as it may, Mont Blanc is unrivalled as regards present-day literature.

I. *La Chaîne du Mont Blanc* is worth a place in all libraries. The photographs are among the very best we have seen, the aquarelles are effective, and the text, written by the principal modern authorities on the Chain, is bound to be concisely sufficient.

Since Kurz and Vallot give us the information required—to quote only the most recent authorities—we turn naturally to the illustrations. Comparisons are odious, but we may be permitted to admire beyond all the photographs by the Bottega d'Arte, Courmayeur. Of these, the views of the 'Aiguille Noire de Pétéret'

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[1] I. *La Chaîne du Mont Blanc*, by Henri Bregeault, E. de Gigord, J. and T. de Lépiney, A. Migot, R. Richard and H. de Ségogne, with an Introduction by J. P. Farrar, pp. 162, profusely illustrated. Paris: Alpina, 1928. Price 150–225 fr.

II. *Les Panoramas du Mont Blanc*, by Robert Perret, pp. xxii + 210, illustrated. Chambéry: Dardel, 1929. Price 100 fr.

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(p. 7) and 'Les Grandes Jorasses vues d'Entrèves' (p. 31) are simply magnificent both in effect and reproduction. There are others which are, or *should* be, as fine. But 'Dent du Géant' (p. 123) and 'Mont Blanc from Aiguille de Trélatête' (p. 143) have been printed 'reversed'—a sad oversight.

Other splendid views are 'Au Sommet du Tour Noir' (Chalonge, p. 53), spoilt by an attempt at sensationalism, 'Panorama de l'Aiguille de Leschaux' (Ravelli, p. 75), 'Aiguilles de Blaitière et du Fou' (Chevalier, p. 103), 'Dent du Géant' (Boissonnas, p. 125).

The vast majority of the views are by M. Bregeault, and, as might be expected from such an expert photographer and mountaineer, are of great beauty and interest: we like best 'Montée au Col du Dôme' (p. 6), 'Le Dru' (p. 13), 'Aiguille de Triolet' (p. 67), 'Grandes Jorasses' (p. 115), and last but not least, although of necessity foreshortened, 'Aiguille de Bionnassay, face nord' (p. 159).

One word of criticism: we should have preferred, in such a work, *unusual* views. Instead of which the majority are well known almost to the point of banality. Still M. Bregeault's 'Sommet de l'Aiguille de Bionnassay' (p. 158) is very much out of the ordinary!

The 'get-up' of the book is splendid, the price so moderate that we recommend it strongly to all mountaineers and lovers of the picturesque.

II. This is another very fine work. The plan adopted differs from that in I. On each page is an illustration of some peak and the title includes a short *résumé* of the route followed in its ascent, so far as the said route corresponds with the illustration. The itineraries are after Kurz, 1927. Where necessary, the 'route' is continued over the page.

Several good judges have considered the illustrations as superior, on the whole, to those in I., *La Chaîne du Mont Blanc*. We are far from holding this opinion, but it is, unquestionably, a case of splitting hairs. In one respect M. Perret's book is superior: the illustrations[2] are better chosen, are far more 'unusual,' and give a larger selection of views other than of the French slope. There are no less than 208 mountain illustrations besides two interesting studies of guides—pursuing their unlawful occasions—at the end. Photographs we especially admire will be found: 118 'Aiguille du Géant,' 153 'Crocodile, Caïman, Blaitière, Grands Charmoz, Grépon,'[3] 203 'Aiguille Noire de Pétéret,' 206 'Pointe Walker of Grandes Jorasses,' 'Aiguille Javelle,' 'Aiguilles Dorées,' etc., etc.

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[2] Nearly all of which appear to be of M. Perret's own taking.

[3] The author's reasons for spelling the name Greppon throughout are as unconvincing as are his claims for adopting the form 'l'Hognan' *vice* Lognan. After all, 'Chammonis' is the earliest version!

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The general arrangement and production of the book is superb, and as regards both *La Chaîne du Mont Blanc* and *Les Panoramas du Mont Blanc*, we would say to all mountaineers, 'Go to the book-shop.'

In one respect, however, both books are deficient: the indexes are miserably inadequate. Italian critics may with truth complain that the southern slopes are badly neglected. For this neglect the insanities of their own Government and frontier guards are mainly responsible.

May we trust that both works are only precursors to others similar on the French Alps? The publishers of II. will find better material nearer home.

THE ALPINE CLUB LIBRARY.

The following works have been added to the Library:—

Club Publications.

Akademischer Alpenclub Bern. 23. Jahresbericht, 1927–8. 9 × 6: pp. 30: ill.

(1) **Appalachian Mountain Club.** Appalachia. 1928

(2) —— Bulletin, vol. 21. 7½ × 5: pp. 218. 1927–8

(3) **C.A. Belge.** Bulletin. 1928

(4) **C.A.F.** La Montagne. Revue mensuelle. Vol. 24. 9 × 6: pp. xxxi, 400: ill. 1928

(5) —— **Groupe de Haute Montagne.** Annuaire, No. 3. 8½ × 5¾: pp. 110: plates. 1928

—— **Isère.** Circulaire trimestrielle. 8½ × 5½. 1929

(6) —— **Lyons.** Revue Alpine. Vol. 29. 9½ × 6: pp. vii, 174: ill. 1928

—— **Pyrénées Centrales.** Annuaire du cinquantenaire de la Section 1876–1926. 10½ × 7½: pp. xvi, 184: ill. Toulouse, 1927

100 copies printed, of which this is 64.

Contains:—*Charles Fabre*, Cinquante ans de Pyrénéisme: Autour du Pic du Midi d'Ossau et du Balaïtous: Onze journées en Ariège et Andorre.

—— —— The second item in the above is printed also separately. 10½ × 7½: pp. 144: ill. Toulouse, 1928

(7) **C.A.I.** Bollettino. 1928

(8) —— Rivista mensile. Vol. 47. 9½ × 6¾: pp. xv, 429: ill. 1928

—— **Bergamo.** U. Tavecchi, Diario dell' alpinista. Guida rapida alle Capanne e rifugi alpini. . . . Anno vii. 5½ × 3½: pp. 188: maps. 1929

(9) —— **Milano.** 1928

—— —— Gruppo 'Antonio Sciesa,' difondere fra le masse la conoscenza del C.A.I. 1928

(10) —— **Trieste.**

(11) —— **Verona.** Bollettino sezionale. 9½ × 6¾. 1928

(15) **Cairngorm Club.** Journal. 1928

(12) **Canadian Alpine Journal.** Vol. 16. 9 × 6: pp. (viii), 260: plates. 1926 and 1927

(16) **Climbers' Club.** Journal.

(13) **Club suisse des femmes alpinistes.** Nos montagnes. 10 × 7½: pp. 207: ill. 1928

(14) **Colorado Mountain Club.** Trail and Timberline. Monthly. Nos. 100–122. 9 × 6: pp. 10 each number: ill. 1927–8

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(17) **D.u.Oe.A.-V. Donauland.** Nachrichten. 1928
(18) —— Mitteilungen. 12 × 8 : pp. 220. 1928
—— **Freiburg im Breisgau.** Nachrichten. 9 × 5¾ : pp. 32. 1928
(20) **Excursionista catalana.** Buttleti. 1928
Fédération montagnarde genevoise et Union montagnarde vaudoise. L'Echo montagnard. Parait tous les 15 jours. 6. et 7. année. 10 × 7 : ill. : pp. 6 each number. 1928, 1929
(19) **Fédération des Sociétés pyrénéistes.** Bulletin Pyrénéen. 32. année. 10 × 6¼ : pp. 576 : ill. 1927–8
(21) **Fell and Rock Climbing Club.** Journal, vol. 8, no. 1. 8½ × 5½ : pp. 130 : plates. 1928
Hrvatskog Planinarskog Drustvo. Hrvatski Planinar. 24. year. 9¾ × 6¾. 1928
Istituto italiano di Speleologie. Le Grotte d'Italia. Rivista Trimestrale. 9½ × 6¾. 1928
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P. 15: 'Granada seemed to him to stand in a wild desert of snow mountains with the horrible Sierra Nevada rising against and seeming to overhang it. To the Sierra he allowed majesty, but he was never a mountain lover. "I hope," he once wrote, "you will never be influenced by ambition of scaling more odious homicidal mountain peaks. The ancients (unaffected by modern sentiment) seem to have thought them hideous waste obstacles on the earthly face—as just a view, perhaps, as the other."'

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Nied. Grosswandeck S.E. face (27); 1 a. 27 Mte. Gruetta S.W. arête (8); 1 a. 26 Grüntalstock (31); 1 a. 26 Gufelgrast (27).

1 a. 25 Hiefler S.W. face (27); 1 a. 24 Pta. d. Hirondelles (8); 1 a. Hochblassen S. face (27); 1 a. 26 Hochkönig S. face (27); 1 a. 26 Hochstadl N. arête (27); 1 a. Homme-Etroit (4).

1 a. Jadgöl Dagh (31); 1 a. 27 Dent Jaune fr. Gl. de Plan Névé (31); 1 a. 27 Jedigöl Dagh (27); 1 tr. Kleinste Zinne N.E.–N.W. (45); 1 a. 27 Jungfrau by Rotbrettgrat fr. Rotbrettlücke (31); 1 a. 27 Jungfrau S. face (8).

1 tr. 28 Kern Knotts Chain (21); 1 a. 27 Königköpfl. S. face (41); 1. a 27 Kupkarlsp. S. arête (27).

1 a. 28 Langdale Crack (21); 1 a. 26 Lärchflecksp. N.W. face (27); 1 a. 27 Cima dei Lastei S. face (27); 1 a. 27 Aig. de Leschaux N. arête (8); 1 a. 27 Aig. de Leschaux N. arête (45); 1 a. 27 Aig. de Leschaux French side (42); 1 a. Aig. de Leschaux S.W. arête (8); 1 tr. 1927 Gendarme Lieutard (6); 1 a. 27 Lolut (27); 1 a. Lolut (31); 1 a. 27 Lyskamm occid. N.E. face (5); 1 a. 27 Lyskamm occid. N.E. face (8); 1 a. 27 Lyskamm W. by N.E. face (42).

1 a. 26 Madaunsp. E. arête (27); 1 a. 25 Pta. Maubert (8); 1 a. 27 Col Maudit by Gd. Mulets (8); 1 a. 27 Col Maudit N.W. face (5); 1 a. 27 M. Maudit by Gr. Mulets face (42); 1 a. 28 Pte. Maximim N. face (45); 1 d. 27 Roche Méane W. face (5); 1 a. winter Meije centrale (5); 1 a. 27 winter Meije centr. and orient (8); 1 a. 28 Meije orient S. face (4); 1 a. 26 P. Miez (31); 1 a. winter 27 Pic du Milieu (5); 1 a. 27 Pta. Minuta S. arête (27); Mönchgipfel für wissenschaftl. Forschung (31); 1 a. winter 27 Pic Moulières (5); 1 a. 27 Mt. Blanc by Gl. de la Brenva (Sentinelle) (31); 1 a. 28 Muselle S.W. face (38); 1 a. 26 Musterstein S. face (27).

1 a. 28 Naper Long Jolin (21); 12 winter 28 Turon de Neouvielle (4); 1 a. 27 Clochers de la Noire (5); 1 a. 27 Tête Noire N. face (8).

1 a. 21 winter Tête de l'Obiou (4); 1 a. 28 winter Tête de l'Obiou (4); Olympus 27 (5); 1 a. 26 Opperstocksp. fr. E. (27); 1 a. 26 Torrone d'Orza W. arête (31); 1 a. 27 4me Pte. de l'Ossau (19).

1 tr. Gruppo d. Pale (8); 1 a. 28 winter Aig. d. Pèlerins (4); 1 a. 27 Père Eternel (8); 1 a. 25 Persailh. S. face (27); 1 a. 1928 Aig. noire de Peuteret N. face (8); 1 a. 28 Pillar Rock grooved wall (21); 1 a. Pta. Pioda di Sciora fr. Albignagl (31); 1 d. 27 Aig. du Plan arête Pain-de-Sucre (42); 1 a. 27 Aig. du Plat-de-la-Séllé arête de Burlan (5); 1 a. 27 Aig. du Plat-de-la-Séllé arête de Burlan (42); 1 a. 27 Aig. du Plan S.E. arête du Plan (5); 1 a. 26 Plankensp. E. arête (27); 1 a. 27 Pta. Plant S. face (8); 1 a. 26 Plattereck N.E. face (27); 1 a. 26 Predigtstuhl, Mittel W. face (27); 1 a. winter Pyrenees (4).

1 a. 26 Raucheck E. face (27); 1 a. 27 Clocher de la Rebarma N. face (31); 1 a. 26 Adm. Reichenstein N.W. face (27); 1 a. 27 Aig. de la Remuaz S.E. face (5); 1 a. 27 Aig. de la Remuaz S.E. face (42); 1 a. 27 Capucin du Requin (8); 1 a. 27 Hohes Riff N. arête (27); 1 d. 27 Riffelh. N. chimney (5); 1 a. 26 Rinka N.E. arête (4); 1 a. winter 28 Cima di Riofreddo (10); 1 a. 27 Aig. du Roc (42); 1 tr. 27 Arête d. Rochassiers (5); 1 tr. 27 arête des Rochassiers (42); 1 a. 28 Dôme de Rochefort S. arête guideless (5); 1 tr. 27 Arête de Roche-Méane (42); 1 tr. Arête de Roche-Méane (42); 1 a. 26 Pta. d. Rossa fr. S.E. (37); 1 a. 26 Rosskopf N. face (27); 1 a. 25 Mte. Rosso S.W. arête (31); 1 a. 27 Pte. Royet (4).

1 a. 27 Pala di S. Martino E. face (27); 1 a. winter Aig. de la Gde. Sassière (47); 1 a. 28 winter Gr. Sassière (4); 1 a. 28 Shamrock Harlequin Chimneys (21); 1 a. Sirac by S.E. Cirque (4); 1 a. 27 Skagastølstind S. face (5); 1 a. Sorapis S.W. face (8); 1 a. 1861 J. Coaz, Piz Stäz (31); 1 a. 27 Mte. Stella E. arête (8); 1 a. 27 Stenar S.W. arête (41); 1 a. 26 Stotzigen S. arête (31); 1 a. 25 Strahlh. S.E. arête (31); 1 a. 26 Streichkopf N. face (27); 1 a. 24 Sulzfluh S. face (31).

1 a. 27 Clocher du Tacul, Pte 3118 (5); 1 a. 27 Taufererkopf W. arête (27); 1 a. 20 Torrente alto W. arête (31); 1 a. 26 Torstein S. face (27); 1 a. 26 Totenköpfl S. face (27); 1 a. 27 Pte. E. du Toubkal (5); 1 a. 27 Toubkal E. pt. (42); 1 a. 28 winter Tsanteleina (3); 1 a. 20 winter Tsanteleina (4); 1 a. winter 28 Tsanteleina (4).

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1 a. 27 Traunsp. W. face (41); 1 a. 26 Triglav N. face (41); 1 a. 25 P. Trovat S.W. face (31); 1 a. 27 Trümmelzahn N.E. face (31).
1 a. 27 Pte. du Gr. Vallon (4); 1 a. 25 Cima di Vazzeda N. arête (31); 1 a. 27 Vorsdagh (27); 1 a. 27 Vorsdagh (27).
1 a. 27 Wartstein W. face (41); 1 tr. 25 Wimbach-kette N.-S. (27).
1 d. 26 Zapport N. couloir (31); 1 a. 24 Zelenica N. arête and N. face (27); 1 a. 26 Pte. de Zinal N. face (31); 1 a. 27 Zinareffien W. arête (31); 1 a. 26 Zinödl N.W. arête (27); 1 a. Zirmessp. N.E. arête (27); 1 a. 26 Mte. Zocca W., N.E. face (31); 1 a. Zumsteinsp. W. face (8); 1 a. 27 Zumsteinsp. W. face (5); 1 a. 27 Zumsteinsp. W. face (31); 1 a. 27 Zumsteinsp. W. face (42); 1 a. 26 Zwölfer N.E. face (27).

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Ori Ammon (41); Oeschinensee (41); Mte. d'Oro (21); Sierra del Oso (21).
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Mte. Rosa fr. Mte. delle Loccie (8).
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CORRESPONDENCE.

'THE FIGHT FOR THE MATTERHORN.'

[The following letters, concerning a threatened exhibition in Great Britain of a German film[1] entitled as above, are published for the information of members.—*Editor*, 'A.J.']

To the President of the British Board of Film Censors.

ALPINE CLUB,
February 21, 1929.

SIR,—I beg to inquire on behalf of the President and Members of the Alpine Club, whether you could see your way to prevent the film entitled *The Fight for the Matterhorn* from being exhibited in this country.

Many relatives of those who perished in the accident of 1865 are still alive, not only in this country but also in Switzerland and Italy, and the representation of the said accident, as also the story

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[1] The individual responsible for this outrageous production is one Arnold Fanck.

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of the film, are gross travesties and libels of what actually occurred. The introduction of the love-story, in which Whymper and the guide Carrel are represented as rivals in the affections of a village girl, is particularly objectionable, and, as you will readily understand, will cause the greatest pain to his family.

I enclose a letter from Mr. Charles Whymper, brother of Mr. Edward Whymper, the conqueror of the Matterhorn, as well as sole British survivor of the disaster. I also enclose cuttings from the press submitted to us by Mr. Charles Whymper, showing that the said film in no way represents the story of the first ascent of the Matterhorn. I would submit that the exhibition of such a film fulfils no purpose educational, sentimental, or otherwise.

I am, Sir,
Your obedient Servant,
(*Signed*) SYDNEY SPENCER.
Hon. Sec.

THE RT. HON. T. P. O'CONNOR, P.C., M.P.

5 MORPETH MANSIONS,
VICTORIA STREET, S.W.
February 23, 1929.

DEAR SIR,—I have your letter of the 21st inst., and I regard it as a matter which requires close investigation, especially as I had the honour of knowing a brother of the Mr. Whymper who took part in the splendid achievement.

I will give the matter my best attention.

Yours faithfully,
(*Signed*) T. P. O'CONNOR.
President of the British Board of Film Censors.

S. SPENCER, ESQ.,
ALPINE CLUB.

ALPINE CLUB,
February 27, 1929.

DEAR SIR,—I would like to thank you for the kind manner in which you have received our letter of the 21st inst., referring to a film *The Fight for the Matterhorn.*

Yours faithfully,
(*Signed*) SYDNEY SPENCER.
Hon. Sec.

THE RT. HON. T. P. O'CONNOR, P.C., M.P.

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PROCEEDINGS OF THE ALPINE CLUB.

A GENERAL MEETING of the Club was held in the Hall, 23 Savile Row, London, W. 1, on Tuesday, November 6, 1928, at 8.30 P.M., Sir George H. Morse, *President*, in the Chair.

The following candidates were balloted for and elected Members of the Club, namely, Messrs. Marshal Neville Clarke, Henry de Ségogne, Ernest Gueterbock, Henry Harrison Hardy, Robert Jeffrey, James Edward Montgomrey, Reginald C. F. Schomberg, Samitaro Uramatsu, and Alfred Zürcher.

The PRESIDENT referred to the deaths of the following Members, namely: Monsieur Pierre Puiseux (Hon. Mem.), elected 1918; Monsieur le Colonel F. Regaud (Hon. Mem.), elected 1924; Mr. J. A. Carfrae, elected 1874. Dr. G. E. Wherry, elected 1893; Sir Alexander Kennedy, elected 1895; and Mr. C. E. Montague, elected 1906.

Professor T. GRAHAM BROWN, F.R.S., then read a Paper entitled 'The First Direct Ascent of Mont Blanc de Courmayeur from the Brenva Glacier, and some other Climbs,' which was illustrated by lantern slides. Discussion followed, and the proceedings terminated with a vote of thanks to the Reader.

THE ANNUAL GENERAL MEETING of the Club was held in the Hall, 23 Savile Row, London, W. 1, on Monday, December 10, 1928, at 8.30 P.M., Sir George H. Morse, *President*, in the Chair.

The following candidates were balloted for and elected Members of the Club, namely, Messrs. Paul Arni, John Duncan Carr, Henry Gother Courtney, Sir Armine B. Dew, Caleb Frank Gates, Percy Reginald Penrose Miers, John Wingate Rundall, Michael Henry Wilson, and Frank Trueman Wynward-Wright.

The PRESIDENT, in accordance with the provisions of Rule 29, declared that the following members proposed by the Committee for the posts of President, Vice-President, and Elective Members of Committee for the year 1929, had been duly elected, namely:

As President.—Dr. Claude Wilson in place of Sir George Morse, whose term of office expires.

As Vice-President.—Mr. W. N. Ling in the place of Dr. T. G. Longstaff, whose term of office expires.

As Elective Members of Committee.—Messrs. W. B. Carslake, J. M. Davidson, Sir William T. Lister, A. G. Whitting and J. M. Wordie, in the places of Messrs. R. A. Frazer, S. B. Peech, D. R. Pye, E. Thomas and H. E. G. Tyndale, whose terms of office expire.

Mr. E. H. F. Bradby, Vice-President, Mr. Sydney Spencer, Honorary Secretary, and the other Members of Committee being eligible, were re-elected.

Mr. J. E. C. EATON proposed that Mr. Reginald Graham and Mr.

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H. J. Macartney be elected Auditors for 1929. This was duly seconded and carried unanimously.

The PRESIDENT referred to the death of Mr. M. F. Monier-Williams, who was elected in 1873.

A vote of thanks to Mr. Sydney Spencer for his work in arranging the Exhibition of Photographs was enthusiastically acclaimed.

The PRESIDENT delivered a Valedictory Address, and was afterwards the recipient of a very cordial vote of thanks for the eminent services he had rendered the Club during his three years of office. The vote of thanks was proposed by Mr. D. W. Freshfield.

In connection with the Exhibition of Photographs, the Club was 'At Home' to members and their friends on the afternoon of Tuesday, December 11. About 400 attended.

THE ANNUAL WINTER DINNER took place at the Edward VII Rooms, Hotel Victoria, Northumberland Avenue, W.C. 2, on Tuesday, December 11, at 7 P.M., Sir George H. Morse, *President*, in the Chair. The Club's guests were Major-Gen. Sir John Duncan, K.C.M.G., C.B., D.S.O., the Hon. Mr. Justice McCardie, Sir Richard Gregory, F.R.A.S., and Mr. R. S. T. Chorley, *Vice-President* of the Fell and Rock Climbing Club. Members and Guests numbered 270.

A GENERAL MEETING of the Club was held in the Hall, 23 Savile Row, London, W. 1, on Tuesday, February 5, 1929, at 8.30 P.M., Dr. Claude Wilson, *President*, in the Chair.

The following candidates were balloted for and elected Members of the Club, namely, Mr. William Cliffe Burnet, Mr. William Harold Hey, and Monsieur Jean Antoine Morin.

The PRESIDENT announced with regret the deaths of the following Members: The Rev. Canon H. J. L. Arnold, elected in 1904. He died in June 1928. Mr. C. Myles Mathews, elected in 1899, who died in December 1928. Mr. Thomas Meares, elected 1908, and Mr. E. de Quincey Quincey, elected 1888.

The PRESIDENT said that Members would also regret to hear of the sudden death of the celebrated guide, Christian Klucker, which took place at Sils Maria, Upper Engadine, in December last.

Members were informed that Signor Giorgio de Wolff of Pola, Italy, had very kindly presented to the Club a water colour painting of Monte Rosa from above Macugnaga, his own work. The picture had been hung in the Reading Room, and was a splendid addition to the Club's collection of Alpine Paintings. The Hon. Secretary had been instructed to convey to Signor de Wolff the very cordial thanks of the Club.

Mr. D. W. FRESHFIELD moved that the Resolution passed at the Annual General Meeting on Monday, December 14, 1925, be rescinded and that Rule 26 should be altered in accordance with the notice which had been circulated to Members, prescribing the terms of office of the President, the Vice-Presidents, and Elective Members

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of Committee. This was duly seconded by Dr. T. G. Longstaff, and passed unanimously.

Capt. G. I. FINCH (under the title of 'The Cult of the Little Pictures') showed three cinematograph films featuring himself, Mrs. Finch, and Messrs. Foster and Peto, in the crossing of Mont Blanc, the Ascent of the Tête de Valpelline, and an Ascent of the Wyttenwasserstock (St. Gothard Group).

A very cordial vote of thanks was passed to Capt. Finch who acknowledged his indebtedness to the two representatives of Kodak Limited who had so kindly operated the lanterns for him.

A GENERAL MEETING of the Club was held in the Hall, 23 Savile Row, London, W. 1, on Tuesday, March 5, 1929, at 8.30 P.M., Dr. Claude Wilson, *President*, in the Chair.

Signor Guido Alberto Rivetti was balloted for and elected a Member of the Club.

References to the death of Capt. J. P. Farrar, D.S.O., were made by the President, Mr. G. Yeld, Mr. G. E. Gask, Mr. H. V. Reade, Mr. Edgar Foa, Mr. F. S. Smythe and Mr. W. N. Ling.

The PRESIDENT mentioned that letters of condolence had been received from all the Foreign Clubs, and a number of well-known foreign mountaineers.

The PRESIDENT also announced with regret that Mr. Samuel Aitken, who was elected in 1891, had died recently in his 86th year.

Mr. EUSTACE THOMAS read a Paper entitled 'Six Years and the Four-Thousanders,' which was illustrated by lantern slides. In the discussion following the reading of this Paper, the President, while congratulating Mr. Thomas on his interesting and humorous paper and on his wonderful record of 'records,' considered there was much that was controversial in some of the views stated or tacitly advocated. Dr. Wilson did not believe that the future of mountaineering lay solely—or even mainly—with the guideless climbers, nor did he consider that the spirit of record-making and record-breaking was in harmony with the best interests of mountaineering in general, or of the Alpine Club in particular. (Other Members, following Dr. Wilson, upheld these views—with which we are in complete agreement.—*Editor* 'A.J.')

Owing to the late hour, Mr. Thomas had no opportunity of replying, but he was the recipient of a cordial vote of thanks.

A GENERAL MEETING of the Club was held in the Hall, 23 Savile Row, London, W. 1, on Tuesday, April 9, 1929, at 8.30 P.M., Dr. Claude Wilson, *President*, in the Chair.

The following candidates were balloted for and elected Members of the Club, namely, Monsieur Paul Dalmais, and Mr. Eric Earle Shipton; Herr Willy Rickmer Rickmers was re-elected to membership.

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The PRESIDENT and Mr. J. J. Withers referred to the death of Mr. H. E. M. Stutfield, who was elected in 1886.

The PRESIDENT also announced that news of the death of Mr. Val. A. Fynn (elected 1911) had been recently received. He was a great friend of Capt. Farrar's and a most remarkable climber. He had lived in Switzerland for a number of years and was well known to many Members. Capt. G. I. Finch also spoke.

Members were informed that Monsieur Charles Vallot, the eminent French cartographer, had been offered, and had accepted, Honorary Membership of the Club.

Also that the index to vols. **16** to **38** of the ALPINE JOURNAL would be ready for publication at the end of June, unless anything unforeseen occurred.

The HONORARY SECRETARY and TREASURER, Mr. Sydney Spencer, presented the Accounts for 1928, which were eventually adopted *nem. con.*

Members passed a cordial vote of thanks to the Auditors, Messrs. H. J. Macartney and Reginald Graham, for their work in connection with the audit.

Mr. F. S. SMYTHE then read a Paper entitled 'Winter Climbing' which was illustrated by lantern slides. Discussion followed in which the President, the Hon. Secretary, Col. E. L. Strutt and Dr. T. G. Longstaff took part, and finally a cordial vote of thanks was passed to Mr. Smythe.

'THE CLOSING OF THE ITALIAN ALPS.'

At the moment of going to press we learn from a private but unimpeachable source that it is hoped the Cols du Géant and Théodule will be open this summer for transit for persons provided with *passports*. It is also hoped that the *ordinary* passport will be enough (*without* the special 'tourist' card) for foreigners, as it now is, since the last few months, for Italians travelling in the frontier zones. The result, however, will not be known until about *June* 15.

In any case, it is definitely known that instructions will be given to facilitate the movements of foreigners, and especially and beyond all others of *British* subjects on the Alpine frontiers . . . 'but it is not all what we all want.'

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Vue de Clarens au lac de Genève dessinée par G. Lory père.

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THE

ALPINE JOURNAL.

NOVEMBER 1929.

(No. 239.)

Black Forest Mountain, Pamirs.

By W. RICKMER RICKMERS.

I AM the bearer of glad tidings. His Highness Badrap Khan, Lord of the Silent Places, has entrusted me with the following Letters Patent :

'Whereas We feel Graciously pleased to invest our beloved friend, Editor "A.J.," with a Coat of Arms as hereunder set forth :

'Névé, a stick Alpine horizontal. Above : a Lemon Squeezer agape ; a Lemon intact approaching from dexter trustful. Below : a Lemon Squeezer clenched ; a Lemon enjawed weeping. Bottom : a Container emblazoned "A.J." overflowing.'

Now, I really do not mind oozing for the 'A.J.' when I am full ; but there was not much in me from the beginning, and other editors have had their fill of that. The Alpine Journal owes its freshness to the own doings and own sensations of its contributors. I was only a glorified 'bus-conductor and scribe who shouted from time to time, 'All change for Fedchenko Glacier' or 'Alight here for climbing Mount Kaufmann.' Then I was left alone to clean the 'bus. Only once did I leave it secretly to scale a little hill of my own.

Six times I have written painstakingly, systematically and chronologically about the aims, doings and results of the German-Russian Alai-Pamir Expedition. At least twenty times I have held forth to spell-bored listeners. So the reader,

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even the ungentlest of them, will understand that I am getting pretty sick of the subject. If anyone takes an interest in the general record of the venture, he can easily look it up in the *Geographical Journal* for September 1929. If not, there is no need for me to repeat it here. I therefore propose to make Peaks, Passes, and Glaciers the theme of this article, ending up with my ascent of Kara Tugai Tau or Black Forest Mountain.

Our discoveries are crystallized around the highest peak, the oldest pass and the longest glacier of Middle Asia.

Strutt tells me that the R.G.S. is lending the map which it had prepared to accompany my paper.[1] As usual it is an excellent map. The humble mountaineer will, however, notice that it is a Q-map, fearfully and wonderfully spelt according to the rules of the Permanent Committee on Geographical Names. Let me hasten to say that I submit to discipline. But he who obeys is entitled to reasonable protest. Should it however be too late to protest, let me at least indulge in a little grousing.

It would be unfair to make too much of such discrepancies as Qaramuk, Qizil Su, Tashqurghan, Kabadian, Turkistan, Muk Su, Kuliab, and many others. The Names Committee is a necessary and useful institution ; I love it. All the same its inordinate affection for the Q seems to show a wee little want of logic and imagination. To begin with, a topographical map is not a medium for teaching grammar or pronunciation. An English (or German, or French) map is for the reading ear or hearing eye of all the English (or Germans, or French). Nobody will put his finger or at least a silver spoon down his throat in an attempt to pronounce Qarateghin properly. I think K and Kh are quite enough to cover the wide range of gutturals for British use.

True, the Committee adds ' For British Official Use ' after its name. That is very cautious of them. Unfortunately a caution which protects oneself is also a caution that warns others off. Do I perceive the first thin crack of a widening crevasse which separates Officialdom from Unofficialdom, Leaderdom from Followdom ? Is this a secret code in the making ? *We* want guidance towards uniformity and simplicity. Funny-looking words tell us far too much, and they tell the specialist far too little. A bad compromise equally useless for the laymen and the learned. ' Please, Sir, where in the Old World runs the boundary line between K and Q,

[1] See the end of this Volume.

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between Qarlsbad or Qandersteg and Karashar or Kairo ?' They think they have caught the Turki, but I fancy they have caught a Tartar.

Have they forgotten the schools where the official things of to-day are to become the common things of to-morrow ? (That is where the want of imagination comes in.) I can see the man in the street—you or me—skipping an article headed ' Revised Version of the Quran ' or ' Construction of Quairwan.' He will suspect algebra. Give me plain figures ; give me Woolooboolooo simplified to Wulubulu. The editor has not corrected my (unintentional) misspelling of Kara-jilga and others in the last number[2] of the ALPINE JOURNAL. But the most glaring case of insubordination is given by the first number of the *Himalayan Journal* where I do not find a single Q-name. And Mason a high official at Qalqutta ! I denounce him ; may he be shot at dawn !

It is a far cry from climbing to spelling, but a lemon squeezed to the uttermost cannot yield its last drops but with a bitter taste from the rind.

The Alai-Pamirs are the mountains between the Amu Darya (Oxus) and Syr Darya (Yaxartes). They are the block of the Pamirs with its western streamers or tassels, the longest of which, the Alai, reaches as far as Samarqand. The eastern margin, namely, the Qungur-Mustagata chain, is not included as it is supposed to belong to the other side. The ' Twostream-land ' of Turan between Oxus and Yaxartes makes a fascinating unit, lending itself to comparisons with Alpine Europe. The sandy desert of Qizil Qum forms its lowest dump, the Sea of Aral its lowest basin. At the other end, but 12,000 ft. higher, there is another rubble-shoot in the shape of the various Pamirs or desert valleys. To complete the likeness there is even a salt lake without an outlet, Lake Great Qara Köl. As to recent discussions about dumps in the press (I mean the discussions not the dumps in the press) let me assure you that owing to extremes of heat and cold and owing to the complete absence of organic matter these two dumps of Turkistan are wonderfully hygienic. They contribute nothing to the dear old smells of Asia. Nor have travellers caused a nuisance by leaving paper or tins about. I have never seen a broken bottle out there. Paper is soon blown into the nearest river by the everlasting wind ; empty tins and bottles are eagerly picked up by the mountain folk. I suggest that people leaving litter

[2] *A.J.* **41**, 156–160 ; he was far too ignorant !—*Editor.*

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about be condemned to picnic from one to fourteen days on one of London's dustheaps, beginning on a Monday morning, in Hyde Park.

The Pamirs as a whole may be likened to a stork's nest, the bottom of the inner hollow—the average bottom of the valleys called Pamirs—lying 12,000 ft. (4000 m.) above sea level. The dividing ridges rise 1000 m. (3000 ft.) above the valleys, the maximum represented by the highest peaks (6000 m.) being 2000 m. The rim of the nest—Himalaya-Hindukush, Mustagata range, Transalai and Seltau—is 1000 m. higher (maximum 2000 m. and more). That is to say, with reference to sea level, the mean height of the marginal ranges surpasses that of the interior ranges by 1000 m. The difference is still greater when we take the highest peaks which do not rise above 6000 m. in the interior, but reach 7500 m. and 7600 m. in the outer ranges. When we stand in the valleys, however, this difference of absolute heights above sea level is sharpened into a tremendous contrast between relative heights, for the inner landscape is Pamirian, the outer landscape Alpine. A Pamir is a flat shingle-bed ten miles wide and more; an Alpine valley is a notch. Imagine the Prätigau at Davos, the Rhône valley, or any part of the Upper Engadine twenty times wider, taking care to extinguish every tree and village, and you have a Pamir. The ranges bordering this vast plain will appear even lower than they are. Sometimes they look like lakeland hills, an impression agreeably and slowly dispelled by a stiff grind of three or four hours.

The main valleys of the outer ranges are 1000 m. deeper, so that a good average peak will tower 3000 m. or 10,000 ft. above you, whereas a corresponding peak on the banks of a Pamir will only rise 1000 m. or 3300 ft. above your standpoint. Looking up to the highest summits the difference will be 4500 m. and 2000 m. respectively. Some of the Pamir ranges are undulating hills, especially around the Khargush Pamir, but many, like the Muzkol, are truly Alpine, so that the typical Pamir landscape only appears in views taking in the valley as the main feature. Losing oneself among the Muzkol peaks is like entering a Norwegian fjord from the wide expanse of the sea.

The Pamirs are a cluster of ranges drowned in their own rubble up to their breasts and necks. Nature, the sculptor, has been left in the lurch by her charwomen, the rivers, so that her statues are partly buried in chips. This accumulation was worked into ground moraine by the glaciers which once covered the Pamirs forming an ice-cap akin to that of Greenland.

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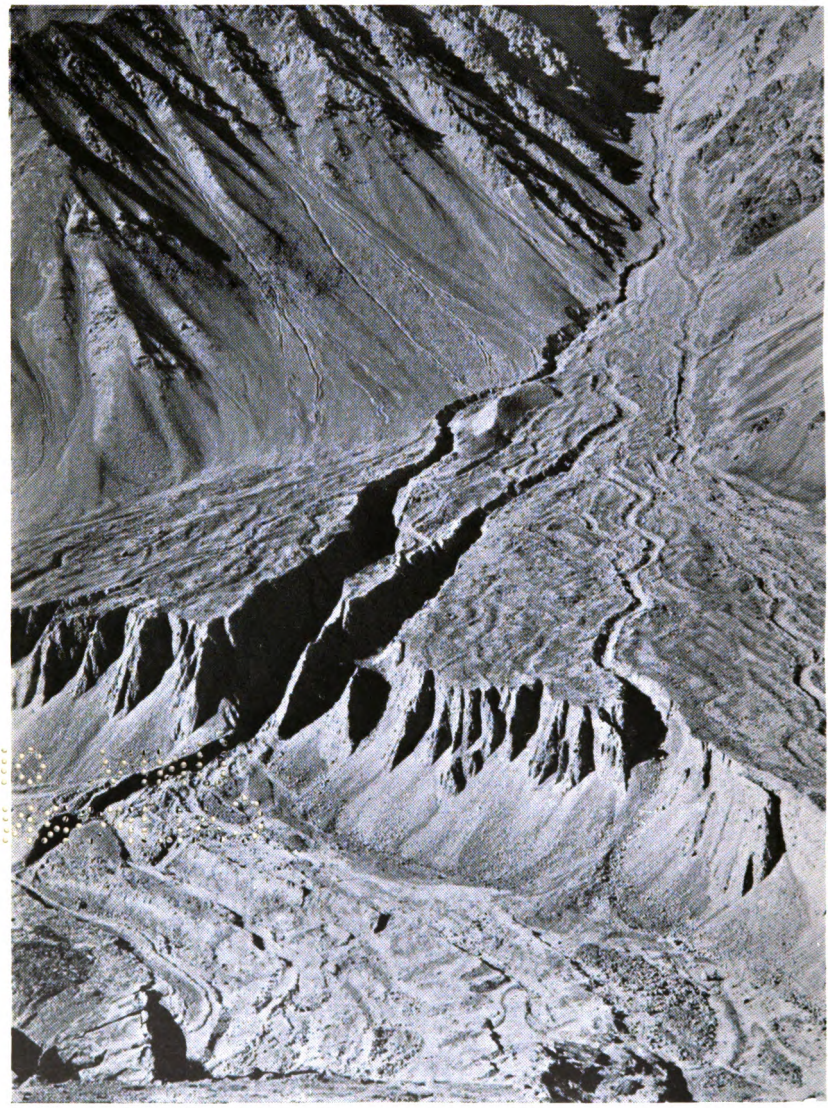

Photo. W. R. Rickmers.

Shoot cone below KARA TINGAI TAU.

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To-day, weathering proceeds apace owing to sharp extremes of temperature. Hence the rivers attacking the Pamirs from all sides are faced by a tough job, for the upper dump increases steadily. At present it is impossible to say whether there is an excess of transportation by the rivers over the accumulation by weathering. In the long run the basis of erosion represented by the Sea of Aral will of course gain the upper hand in the process of levelling down unless upheavals or variations of climate change the present order.

Owing to its dry climate Turkistan is a country of violent contrasts which strike us with tenfold intensity among the mountains where the continental conditions of the plains combine with the effects of height above sea level. The desert of the plains is dovetailed into the desert of ice. Glaciers dig their cool snouts into grey rocks blistering with heat. Sand dunes striped with wind-ripples overlie beds of dead glacier ice. Wherever we seem to notice a transition, it is merely due to fields and gardens irrigated from the rivers, or to some favoured flank which receives a little more rain. With one notable exception the height of the Alai-Pamirs makes not the slightest difference in the rainfall (precipitation of rain or snow). The glaciers are merely the result of careful saving. Up there every snowflake is kept in cold storage, and the annual share of accumulated capital is paid out at the ends of the glaciers. In the plains the summer rains evaporate immediately, while the winter rains run to waste. There being no springs worth mentioning, the whole of the civilization depends on glacier water.

The exception referred to is the Seltau, the western rim of the Pamirs. Running N.—S. and rising to an average height of 6000 m. (20,000 ft.) this range acts like a powerful refrigerator which thoroughly chills the western winds, freezing out what little moisture they contain. This makes the Seltau the only bad-weather range in the country, at the same time explaining its big glaciers. The Seltau serves as an umbrella to the Pamirs, where the rainfall is but one half of that observed at Kazalinsk, near the Sea of Aral, where the dunes of the Qizil Qum cover tens of thousands of square miles. While the climbing weather of the Seltau closely resembles that of the Alps, the ranges west of it, such as Peter the Great and Alai, gladden the mountaineer with a dry season lasting from the end of July to the end of October. During September there comes the usual short autumnal break which may bluff the inexperienced into untimely retreat.

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On the Pamirs we meet with every kind of desert or half-desert from the mangy steppe to the rocky, pebbly and sandy desert. On the southern peninsula of Great Qara Köl bare rocky spurs varnished by wind and sun form a genuine Nubian desert. During July the weather on the Pamirs is bad with little precipitation, that is to say, overcast and windy with an occasional shower not lasting more than five minutes. One gets into the habit of leaving one's things lying about in the open. Curiously enough carapace glaciers and ice-floes on the valley bottoms often mimic arctic landscapes. But a map showing the rainfall of the world tells us that Greenland belongs to the dry belts on earth. The ice floors and the sharp rims of the snowcaps seem to be witnesses of climatic contrasts. I imagine the summer weather of Greenland to be similar to that of the central Pamirs: uncomfortable but not exactly soaking.

The usual Turkistan glacier forms a type of its own. It lies in a deep and relatively narrow ditch. The head of its valley is not a bowl of cream but a steep corry with ice-armoured walls meeting the valley glacier at a steep angle. Ice slopes and icefalls feed the glacier stream proper. Thus we find no gradual transition from dry glacier to fields of névé. Up to the foot of the corry walls the glacier is practically all snout, marked off from its feeding shoots by the sharp break in the slope or by rim-clefts (*Randklufts*). Sluggish, fat and short, the warty dragon lies at the almost level bottom of its stony trough. A typical Alpine glacier only ends at the top of the watershed, the scientific névé-line separating the feeder from the fed being the result of various formulae giving different results. The Alpine glacier is like a river oozing out of swamps; the Turkistan glacier is like a stream below a waterfall.

Looking at one of these glaciers one wonders why it is so big, for a few icefalls seem to offer but poor nourishment. I explain this apparent anomaly by climate and the shape of the bed. This again is also due to a dry climate where sharp weathering produces rock faces unwilling to wear a cloak of protective névé. Lying flat and not being subject to the deliberate pressure from a basin above, the snout crawls very slowly. Covered with rubble and showing but few crevasses it offers only a small surface to the attacks of the sun. It melts, of course, as the torrent proves, but I should say that it melts less than a glacier of the same size in the Alps or Himalaya. Let us distinguish between *melting* and *evaporation*. Moist warm air, although more or less saturated, will cause any

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amount of melting. It produces sloppy conditions. Moreover, it acts continuously, the bulk of the atmosphere not cooling down very much at night or in the shade. Taking quantity for quantity evaporation can never take the place of melting unless there be a sustained hot blast (*Föhn*). The solid ice of the Turkistan glacier with its small surface and shield of rubbish cannot suffer much from evaporation. Hence nearly all the melting is done by the sun. Where a shadow is cast or when night falls, melting ceases at once. Thus the period of melting is strictly confined to the hours of sunshine. *Old* snow hardly ever gets sloppy on these mountains unless there be complete absence of wind in a hollow, a rare case.

Moreover, the length of a Turkistan glacier is mostly a sham owing to a dead end which is often many miles long. According to local conditions the dead ice may form one-fifth or even one-third of the whole length of the snout. Approaching from below we enter a vast expanse of rubble heaps. Only here and there is the dirty ice laid bare. It is honeycombed with funnels containing small lakes of pea soup. The black dripping facets of exposed ice remind one of wet coal-dust. The mounds of loose blocks are often a hundred feet high.

This part of the snout does not move at all, for otherwise the round craters could not remain open. Near the end some of them seem to touch the very bottom of the glacier bed. After an arduous walk we reach the white or living glacier which is sometimes separated from its former self, but more usually kneaded into it. Should it ever advance again it will eat up its own dead parts.

The dead ice has been left stranded by the last retreat. Assuming that glacial movements in the Alai-Pamirs and the Alps have been timed by a common cause, then we must look to the advance and retreat which in the Alps took place during the middle of last century (round about 1850). The Alpine glaciers have not left any dead ice behind because a steady supply from the rear (shape of basin, climate) enabled them to retreat in order. In Turkistan everything is sudden. At the same time this shows how long ice will keep out there when covered.

There is, however, a disturbing factor in our reckoning, namely, earthquakes. Undoubtedly the frequent earthquakes of Middle Asia cause irregular feeding by shaking the ice from the walls of the corry. And there may have been a tremendous earthquake affecting all the glaciers. If so, it must have taken

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place before the Russian occupation, that is to say, before the time of reliable written records.

Let me hasten to say that not all the glaciers of Turkistan are true to the standard pattern. We find quite a number approaching the Alpine type. Nor are the glaciers of the Seltau, of which I shall now speak, all of them Alpine. On the contrary, the majority of small and middling glaciers of the Seltau are Turkistanic. But here is the only large area presenting an Alpine landscape. The Notgemeinschaft Glacier, 25 miles long, has a good-sized Alpine basin. But its snout ends in a vast desert of dead ice covering at least two square miles. The leading feature of the Seltau is the enormous Fedchenko Glacier. One only in name, it stands for a whole world of glaciers and snowfields. It is not a worm with a few stumpy suckers at its head, but a Medusa with many long tentacles splayed at their ends. It has no dead ice, but is active throughout. Naturally the tip of its snout is covered with surface moraine for a mile or so.

The Fedchenko Glacier is the longest in the world, measuring 48 miles (Siachen 45, Inylchek 44, Hispar 38). When I wrote for the *Geographical Journal* it was only 44 miles long. Since then, Dr. Finsterwalder, our topographer, has been able to calculate more exactly from the data of his photogrammetric survey. He measured along the stream-line, as usual. As I know him to be a sportsman, I do not suspect him of unfair dealings in order to oust the British glacier! Arctic glaciers do not come into this competition, being, like Greenland, bulging jelly-fish with fringes all round. Fundamentally, of course, the glacier system of a central mountain group is also an ice-cap, although broken by ridges. It resembles the saddle-cloth thrown over a bony mare.

In spite of its wide upper basins the Fedchenko Glacier does not entirely run away from type. The rims of the basins fray out into steep rock faces studded with icefalls. Thus the peaks closing in the heads of the valleys present a general scheme of black and white. Nowhere do we see a Jungfraufirn or Ewigschneefeld with their pure white undulations descending from the skyline.

Only by the coming together of the most favourable conditions could such a mighty glacier have been born under the sun of Turkistan and within the cramped space of the Pamir fringe. The Seltau is not a divide outlined by mountain folding, for the ' strike ' of the Pamirs and their western continuations runs E.—W. The Seltau is a watershed at right angles to

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Photo, W. R. Rickmers.

GARMO Mountain (7,500 m.) from MIRZA TASH (5,400 m.) on GARMO Glacier.

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the geological strike. The long and often narrow chains between the rivers Bartang, Yazgulam, Vanch, Khingab and Surkhab are the true continuations of the Pamir ranges. The Seltau is probably the outcome of a fault as witnessed by the icefalls, sometimes 3000 ft. high, in nearly all its glaciers descending on the outer or western flank. I consider it very likely that this was accompanied by a parallel fault on the eastern side more or less in line with the Fedchenko valley. The long longitudinal block thus raised became the foundation of a transverse watershed. On the western flank the old heads of valleys managed to rejoin their lower ends by eroding the cliff. The eastern fault—overhung by a higher plane on the Pamir side—collected all the rainfall, leading it towards the N. One may be allowed to suspect that something similar happened along the Transalai and Mustagata ranges. This would explain the higher rim of the Pamirs and also the tendency of all the inner rivers and glaciers to skirt the ranges. The Pamirs always remind me of an unfolded rose into whose middle one has strewn sand, leaving the larger outer petals free.

Thus the Fedchenko Glacier enjoys the following advantages: It lies on a long flat plateau, being in fact a Pamir filled with ice instead of shingle; it taps the whole length of the highest portion of the Seltau and just at the right height; the Seltau runs N.—S. and is the westernmost rim, thus trapping the most and the best of the moisture carried by westerly winds; the glacier hugs the eastern flank where the clouds will unload their heaviest cargo just after passing the top of the refrigerator. In short, every possible trick of situation and surface has been made use of to extract the uttermost from an unwilling climate. I take it as an illustration of modern business methods helped by Caledonian thrift. The poor Seltau has turned out a longer glacier than the rich Himalaya.

In 1913 I climbed a mountain 5400 m. high on the right bank of the Garmo Glacier (Upper Khingab). In honour of our Bukharan official I called it Mirza Tash or Stone of the Scribe. From the top I saw the Seltau unfolded in all its glory. Having worked steadily eastwards for the last twenty years I now stood on the threshold of the last and mightiest fortress. My imagination filled it with the longest glaciers, the highest peaks, and the most mysterious passes of Turkistan. The dream of the longest glacier has come true beyond the dreams of record-breaking. The Seltau also boasts of the highest peak of all the Russias. I even saw Mount Garmo close at hand, although

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I did not guess its royal claim. Finsterwalder has meanwhile not only managed to stretch the Fedchenko Glacier, but has also dethroned Mount Kaufmann which is only 7130 m. high, whereas Mount Garmo touches the 7500 m. mark, for such are the triumphs of mathematics applied to the negatives from a photo-theodolite. Thus Mount Garmo surpasses Mustagata and remains second only to Qungur.

Nor did the mysterious pass disappoint us. Borchers and Wien, two members of my 1928 party, found and crossed the Kashal Ayak which, on the Russian ordnance map, had puzzled me long years with the bracketed information 'Frmr. Ps.' A climber will at once ask himself what can have induced mountain peasants to give up an easy pass which shortens a journey of seven days to one of three days. The natives reply either that they know nothing about it, or that the pass has been blocked by ice. Surely something tremendous must have happened then. Of course the villagers may simply wish to keep the col secret. Such was indeed the case with the Sagran Pass which my companion Ficker crossed in 1913. The cast of the Kashal Ayak is different. Let me describe it first. From the headwaters of the Vanch river one follows a narrow glacier through a deep gorge to the top of the Seltau watershed. The usual icefall is not quite so high as the others and can be circumvented on easy slopes. From the Pass (4200 m.) one walks down about 600 ft. over gentle névé to the surface of the Fedchenko Glacier (4000 m.). Now comes a long tramp of ten miles in a south-easterly direction, that is to say, *up* the glacier until one reaches a large bay in the right or eastern bank, a bay filled level with an arctic expanse. Thus the glacier stream, which is one and a half miles wide here, bulges out into a width of two miles. This is a very curious place. After reaching the innermost recess of the bay, and after scrambling over a few moraines, we suddenly look down into a dry valley below, the valley of the Tanimas river running due E. and later on bending S. forming the Bartang. In other words the surface of the Fedchenko Glacier is level with the top of the Tanimas Pass. It even sends a slight overflow across. Our progress down the Tanimas valley is blocked by three side-glaciers forming bars. While they merely bore us stiff they really worry natives in soft boots. Moreover, in the days gone by they were probably longer and therefore more crevassed in the portions which now are their lowest ends. All those glaciers are studded with ice pinnacles. The lowest, the Notgemeinschaft Glacier, can be circumvented round the snout

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of dead ice if one has ordered horses to meet one for fording the stream. Otherwise one has to foot it over another long mile of rubble, ice gullies and serrated ridges. Thus the Kashal Ayak is really a double pass from the headwaters of the Vanch to those of the Bartang. It is also a forked pass, for by descending the Fedchenko Glacier one can reach Altin Mazar and thence Daraut Qurghan in the Alai valley across the Ters Agar, which is an easy horse pass.

Now before the last advance of the glaciers over a hundred years ago one could walk dryshod up the Tanimas valley and down the Kashal Ayak. The intervening stretch of the Fedchenko Glacier though long is easy and safe, there being hardly any treacherous crevasses. Then the ice came and made the pass not worth while even for smugglers, although it may still have been used by fugitives from the justice or injustice of the Amir of Bukhara and his bloodsucking minions.

But a few decades after the ice came also the Russian conquest, and with it came law and order. The Tajiks settled on both flanks of the Seltau need no longer fear to pass through the pasture lands of the Qirghiz or the territories of feudal lords. To-day the pass is practically open again, but meanwhile the demand has stopped. An attempt to resume traffic would be like trying to revive Vauxhall or Cremorne Gardens. Even the tourists of the future will fight shy of it owing to the difficult approach on the eastern side. Even before reaching the lowest glacier in the Tanimas valley one has to travel through thirty or forty miles of uninhabited country. Only a Tajik capable of trotting two days on an empty stomach can face a short cut of eighty miles from one village to another. Comparing length, difficulty and legend, the Col du Géant would be the best Alpine counterpart, I think.

As to Mount Kaufmann I do not know more about it than what Herr Wien told me in a letter written on September 28 from a base camp at Qulgun Tokai in the Saukdara valley which runs along the southern flank of the Transalai and debouches upon the gravel plain of Qutass Qushti (Altin Mazar). Nor is there very much to say about this ascent. Of all attempts upon peaks of similar height this was probably the simplest. Lest I be understood as detracting from the feat, may I remark that a quick and elegant performance, however simple it may look, is not necessarily easier than a laborious one. On the other hand, everybody must admit that a mountain of the right shape came halfway to meet three men of the right

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shape. Dr. Allwein is just now clawing and hacking at a bigger prey, Qanchenjunga [3] to wit.

'Dear Rickmers,—Allwein, Schneider and I climbed Mt. Kaufmann [4] on September 25 by the E. ridge from a saddle in the main range. Not trusting any of the side valleys we decided to attack along the main glacier from which rises the Sauk Dara or Sauk Sai river. This glacier begins at the col due E. of the summit, runs about ten miles towards S.E. and then bends sharply W. From the bend to the tip of the snout is two miles more. A few miles further down lies our base camp Qulgun Tokai. From here to the East Col is 15 miles, to Altin Mazar 35 miles, making altogether 50 miles for the total length of the Sauk Dara valley.

'We left Qulgun Tokai on the 21st with two porters and slept near the end of the glacier (3800 m.). On the 22nd up the glacier to 4600 m. On the 23rd we reached the upper basin (5200 m.) where we left the porters and then went on to the East Col (5700 m.).

'On the 24th we scouted and climbed the Corner Stone (6100 m.) to the E. of the saddle. We then spent a second night on the East Col in our Asmü-tent.

'On the 25th we climbed the mountain, leaving the East Col at 08.30, and reached the top at 15.30. We returned by the same way and lugged our camping kit into the basin (5200 m.). But the porters had skedaddled meanwhile. The cold was so intense that all of us got frozen feet. Inside the tent the thermometer went down to − 18° C. (− 1 F., or 31° of frost). It could not descend further because it was not long enough. Schneider had suffered the worst damage. Accordingly we did not go fast, and on the 26th only got down as far as 4300 m. Yesterday I ran on ahead to Qulgun Tokai where I met Borchers who immediately set out to help the other two. While I am writing this I can see them arriving safe and sound.

'Please send us dermatol powder, ointment, bandages and a pair of gigantic goloshes for Schneider.'

Borchers added a few lines expressing grave fears about Schneider's frostbites. His feet were quite black and blistered.

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[3] Kangchenjunga; we can trust Mr. Freshfield to maintain his own spelling.—*Editor.*

[4] For reasons given in *A.J.* **41,** 160, footnote 3, we have ventured to alter the name in Herr Wien's letter as well as throughout the text.—*Editor.*

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Photo, W. R. Rickmers.

Mt. KAUFMANN from TENGHIS BAI Pass.

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Photo, W. R. Rickmers.

TANIMAS Glacier III in foreground, carapace Glaciers and FEDCHENKO in background.

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When asked whether we should send Schneider to the nearest city as quickly as possible, he replied : ' Better not. He may fall into the hands of a *regular* surgeon.' Luckily Schneider recovered very quickly and got quite well again.

I must mention here that Borchers was prevented from joining in the fray owing to serious injuries received in an attempt to wade through the Vanch river after the crossing of the Kashal Ayak. The torrent took him between the millstones.

And now I may be allowed to have my permitted say. For six weeks on end Dusting Jane had held me in her powdered embrace. Dusting Jane was the wind who, day in day out, amused herself by flicking moraine dust from one mountain shelf to another. On its way to various destinations this dust passed through our base, which was called Dust Camp from the very moment when we first set foot upon its deceptive floor. It was a wonderful floor when we arrived, as smooth as satin with a silver sheen. But the tramp of horses and men soon changed it into a fine powder ankle-deep and yellow. All around us was an arid mountain steppe bordering immediately upon the world of ice. Otherwise it was a very roomy and convenient position just above the big Notgemeinschaft Glacier. Only two more glaciers to pass on one's way to the Tanimas saddle or Fedchenko Gap.

Easy peaks surrounded me on all sides. But business and the scarcity of porters limited my excursions to our near neighbourhood. At last my opportunity came on September 3 with a fresh draft of porters from which I borrowed three young men.

Black Forest Mountain is a misnomer in so far as it is neither black nor forested, but grey and bare. I have christened it Qara Tugai Tau (Black Jungle Peak) after my good friend Dr. Finsterwalder (Dr. Darkwood). It is 5500 m. high and stands on the left bank of the Tanimas just opposite the second glacier descending from the higher mountains facing N. Sharp readers will find out that my peak has grown 200 m. since I wrote my last short note to the JOURNAL. That is not of my doing, for Dr. Finsterwalder has raised the whole of the Tanimas landscape by 200 m., including Dust Camp (now 3700 m.). He discovered some error in the level of reference.

I took so many porters because I wanted to go fast, or rather as fast as my condition would permit. I therefore loaded the porters moderately and did not carry anything myself. A rough calculation showed that the lifting of a moderate ruck-

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sack would mean about 180,000 foot-pounds in 7 hours, or about 6 pounds per foot per second. Now, according to Hingston's famous Everest formula, the square root of the number of blood corpuscles in a cubic inch of blood divided by one's age, multiplied with the inverse ratio of the foot-pounds to the height of the starting level and the time of training at this level, gives the absolute maximum height which one may be expected to reach—unless one collapses sooner. Finding neither the time nor the courage to count my own corpuscles, I hoped to arrive at a rough approximation by asking Juldash, our cook, to count them in the next sheep he killed. He reported 'Yok bar,' which means 'There are none.' I then gave up science and trusted to luck.

Three main factors determine perfect acclimatization to one's climbing base: age, length of stay, and the work to be done (foot-pounds to be lifted). Age cannot be reduced; weight cannot be reduced beyond that of one's body. Hence a man of let us say fifty cannot get beyond a certain point however long he may lead an active life on the 15,000 foot level. For a man of fifty the upper limit might be about 7000 m. or 23,000 ft. Unfortunately my blood corpuscles have not yet been at 6000 m., so that we cannot say whether they are the decisive factor, and whether age fails in not being able to bring the blood up to the necessary standard of more than 8,000,000 corpuscles to the cubic millimetre.

Above the living level comes the fighting belt in which lie the highest points to be attained. One might also call them subject and object levels. But flooring and ceiling suggest themselves as the simplest words. When I feel as fresh and energetic at 3000 m. as on the home plains I have adapted myself to a flooring of 3000 m., and I should be able to touch a ceiling 2000 m. above me without undue over-exertion. I should say that a span of 2000 m. between flooring and ceiling represents the rough average of mountaineering experience. It is the span between ordinary daily work and a short maximum effort compatible with some reserves of energy. If we take the average height of club huts as our usual Alpine flooring after a week's training, then a (relative) ceiling of 2000 m. will cover the average height of all Alpine peaks above the snowline.

Young people enjoy an unlimited ceiling because they cannot climb beyond the height of Mount Everest. We feel pretty sure that the top of the world can be reached with a fair rucksack and without oxygen.

At 5 P.M. I left Dust Camp with my three ragamuffins following the well-trodden path to the high camp below the Tanimas

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Pass. Here and there autumnal cranesbill shot tongues of fire athwart the gritty slopes. Near Glacier II, I found that the porters serving the higher camps had discovered a new way across the snout. I lost it, however, among the mud avalanches between the ice and the old moraine, so that I was forced upwards on to our old all-ice route. The so-called improvement was a complicated zigzag, making use of every stepping-stone and keeping as near as possible to the banks. The natives are like vessels hugging the coast, which comforts the mind in spite of its dangers. The mountaineer, the experienced captain of nailed barges, prefers the ease and safety of the high seas.

At dusk we landed on the gently sloping scree-fan at the foot of Qara Tugai Tau. The place was thickly overgrown with Qirghiz wormwood (*Eurotia ceratoides*), which along with dung is the only fuel of the Pamirs. I call it wormwood for want of a better name. Where it gets a chance beyond the reach of nomad camps, it grows high and thick like heather. Here I wanted to wait for midnight and the moon—midnight in order not to arrive on the cold top too soon, the moon in order to throw some light on our path.

The way up I knew blindfold, so often had I fondled it from the opposite side. It was not lovely but beautifully straight. I estimated at 1700 m. the difference between me and the summit. Of this, 1100 m. meant a very steep grind to the eaves of the roof. This roof or whaleback represents the fragment or section of an old land surface. Ages ago this upper level was a country of vast undulating hills, since then cut up by the ravines of gnawing rivers. Longingly I looked up to the rim of promise, trying to steel my heart against an everlasting grind. A shoot cone, broad and brown, was the foot of my ladder of screes. Becoming narrower and narrower it was at last drawn out into a furrow through the broken rocks of the mountain's necklace.

We started at once tearing out and piling up a cartload of fuel for the fire which was to warm and amuse us during the long hours of waiting. Behind a rock I screened myself from the evening breeze, at least in part, for it is almost impossible to find natural shelter from the Pamir winds. By dint of ceaseless work they seem to have stream-lined every obstacle, so that by now they can glide a sinuous feeler round every corner.

I threw the Zdarsky bag over my shoulders, lit my pipe and looked into the fire or at the sky. Rarely did I catch a gentle touch from the wings of flying sleep. The flames unfolded acanthus leaves into the gloom or pierced the night with the

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forked tongues seen on old etchings. A star had settled on the very point of the ' Weisshorn ' as if climbers were signalling to me. Slowly it detached itself, swimming westwards. Growling, I scanned the fangs of the Seltau where clouds of discontent threatened to erupt in sheaves. The dryness of the air enabled me to entertain the porters with fireworks. When I pulled the yellow resinous stuff of my wrap over my head friction against the hair made such bright sparks that I glowed like a phosphorescent ghost.

At 10 P.M. the moon rose and the evil clouds began to retreat. At midnight I began the first step towards those interminable zigzags which became shorter and shorter as the hours dragged past.

Half of the way we found good footing among loose screes. Then naked cement began to appear where irons would have been a comfort. Grey dust and scarred rocks told their story of a spring-drunk mountain disgorging spates of mud and stones. Now everything was quiet, cast into the bonds of drought. Four hours or 10,000 steps took us to the edge of the upper plateau. I always keep wondering how it is possible to outlive such a treadmill. Thinking of the goal ahead is about the worst thing one can do. But a sort of artistic devotion to footwork endows utter boredom with a modest charm and shortens the thread of patience. Also one is able to follow some chain of thought which the hasty and stumbling beginner can never hope to pay out unbroken through the hawses of the brain.

Like Prometheus unbound, I swung over the edge between captivity and freedom. Below me an abyss of cinders ; in front of me a wide and open world like swelling pastures that greet the wanderer at the outlet of a dismal gorge. The mountain no longer weighed upon my eyelids but beckoned from afar, a rounded hill. Tired but not exhausted I crawled into a maze of black rocks which seemed to be some kind of moraine. Here I boiled tea with the snow given by some white friars who perilously rode the steep screes below me. I saw the whole length of the Tanimas ditch. Opposite me the Notgemeinschaft Glacier slung its hairpin curve around castellated peaks.

Shortly before sunrise the thermometer showed only — 3° C. Evidently the quicksilver felt warmer than I whose bones seemed to rattle on the icefields of Siberia. The shining day rose in glory. At six we started again. A hard tennis court paved with flat stones and gently sloping invited a gay stride winged by the nippy air. After an hour the ground broke up

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into looser stuff and rocky mounds between which appeared strips of snow, the ragged edges of a white caparison that decked the saddle-back. Thinner air began to quicken the breath and to muffle the zeal of the legs. Rocks forming an angle offered absence of wind with presence of sun. Half an hour was spent in this delightful heat-trap.

Then came the first patch of snow so eagerly welcomed by those who know when it is not too steep or hard. This here was no ordinary névé but a sort of flat wedding cake: on a sheet of ice parallel rows, about a foot apart, of crinkly white stuff akin to foamy sugar or the lacework of Dresden china. This is the last stage of a snowfield in Turkistan. Early in the summer it becomes fluted like a marble column. The furrows deepen, the ridges begin to disintegrate, and all ends up in the autumnal ice-froth. The furrows are undoubtedly outlined by the wind ripples across the last snowfall at the beginning of the dry season.

The porters struck. Their skin boots would slip on the ice and feel very tender on the splintering glass of the ridges. This was a case for the crunching drive of armoured cruisers. Each pounding step made a wonderful foothold. These would be the ideal conditions for climbing the steepest ice slope without crampons and without cutting steps. The porters soon gained confidence and followed like lambs.

Soon the lungs demanded a short rest after every tenth step or so. But we had only to scramble over a few more heaps of jumbled blocks and at 9 o'clock stood on the dry top of Qara Tugai Tau. The view was so fine that I cannot describe it. Only my friend Mount Garmo had wrapped himself in clouds, which I thought very unkind, as I had come specially for him. With frozen hands I opened a tin with fish in tomato sauce made in Russia. Its label bore the English legend 'Flesh of the Sturgon in Pickles by the Direction of Preserved Works in Vladivostok.' For dessert we had a delightful German confection called applekrout. For our benefit the makers had rushed into poetry and adorned each tin with a different verse about the joys and sorrows of travel as seen from the applekrout angle. The English version of this one ran :

> 'The jolly juice of applekrout
> Will beribi and scurvy rout.'

They were routed, down to their very letters.

[We express our thanks to the Council of the R.G.S. for use of their map.—*Editor*, 'A.J.']

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Lyskamm and Monte Rosa.

(Unpublished letters from the late Miss Gertrude Bell.)

Breuil, *Sunday, August,* 1904.

DEAREST FATHER,—I have had such a delicious 2 days. I started at 7 yesterday and walked all down the Val Tournanche to Châtillon—17½ miles which I did in 4½ hours. It is the loveliest valley I have seen in all the Alps. The upper part is open meadows lying under the Matterhorn, with a lovely stream and meagre companies of pines most exquisitely planted. Then the valley narrows into a splendid gorge down which you step on to the high meadows of Val Tournanche, and so downwards into chestnut woods, the road turning and winding between the rocky hills which form an ever-varying frame to the great rocky head of the Matterhorn nodding over all. At Châtillon I hoped to lunch, but finding I could just catch a train, I ran down to the station and went on hungrily to Aosta which I reached at 12.30. Do you know it? It is a charming Alpine town, the great glaciers of the Combin and the Rutor shining along its narrow streets. I spent all the afternoon looking at Roman gates and arches and Lombard towers, sustained the while by most excellent black figs of which I bought handfuls for a halfpenny. All the pergolas were hung with grapes almost ripe—oh, it was Italian and delicious beyond words.

I left by a 5 o'clock train this morning, reached Châtillon at 6, where I breakfasted, walked about and eat grapes and looked at a lovely Roman bridge. At 9, I drove up in the diligence to Val Tournanche. I had a companion with whom I presently began to talk, a tall fair Piedmontese, whom I presently discovered to be one of the lights of the Italian Alpine Club. His name is Bobba.[1] He and his family were staying *en villeggiatura* at Val Tournanche and after lunching at the hotel, mostly on spaghetti and cheese, I went up to their chalet and had coffee with them. Then I had the most heavenly walk up here, a golden wonderful afternoon, and I crossed over some meadows to see the beautiful little lake in the woods and without doubt it is the most beautiful lake in the world.

[1] Signor Commendatore Giovanni Bobba.—*Editor.*

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It runs over some rocks into another blue pool lower down, with pine trees growing round, and the upper lake is a perfect mirror for the Matterhorn. The weather is gorgeous and we start for the hut to-morrow, traversing to Zermatt.[2]

Amicis[3] is staying at this hotel—I haven't made his acquaintance. His son[4] is climbing with a very celebrated Italian Alpinist, Guido Rey. I introduced myself to him the other night when I dined here, for he is a cousin of M. de Filippi, and we had a long and interesting mountain talk. He has gone off on an expedition to-day so I shall not see him again.

This *is* a nice place. I'm so glad I came. I think next year I shall explore the Grivola district. I want to see much more of Italian Alps.

Ever your affectionate daughter,
GERTRUDE.

I shall be rather glad to find letters at Zermatt.

RIFFELBERG, *Sunday*, 14 *Aug.*, 1904.

DEAREST MOTHER,—I am having two well-earned days off, and this one is more beautiful than words can say, cloudless, the great peak of the Matterhorn cutting up into an absolutely blue sky. I'll tell you my adventures. I left here about 3 on Thursday and went down to a hut[5] on the glacier at the foot of Monte Rosa, about 2 hours off—first down and then up for the Riffelberg stands very high above the glacier. As we got into the hut it began to rain and heavy thunder clouds blew up. There was the usual strange hut company—a German, a Dutchman, 2 Greeks, and me. I slept extraordinarily sound on my straw, but at intervals I heard it thundering. However, at 5 it was clearer though still rather doubtful, and we determined to start, much to the disgust of the fat . . . who was clearly looking forward to being prevented from taking any further exertion.

We were the only party going for the Lyskamm. We speedily left the others behind and went on our way up a very long glacier, pretty tedious, except for some tolerably amusing séracs. After about 3 hours we turned off from the way up to the pass and had an interesting hour under and up séracs

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[2] The traverse of the Matterhorn is described in 'Letters of Gertrude Bell,' i. pp. 170–1.

[3] The late Edmondo de Amicis.

[4] Ugo de Amicis.

[5] Bétemps Club hut.

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in bad condition, which gave us some trouble. So we reached the shoulder at the foot of the Lyskamm. We climbed up through very soft snow on to the arête, the guides shaking their heads and saying that if the snow was as bad there we should not be able to do it. But it was pretty cold and fortunately we found it in excellent condition so that a very little cutting and kicking cleared the new snow out of the steps. The arête of the Lyskamm is famous. It is very very sharp and has an immense snow cornice, rather smaller than usual this year. You go along some 15 ft. below the summit to avoid the cornice, on the side of a snow slope as steep as snow can lie—curving over below so that you look down into a thousand feet of nothingness. The head needs training as much as the body. I felt terribly frightened when I found myself out on this airy arête and I went through 10 minutes of unmixed fear. (N.B.—I nearly turned back, but I knew I should have to go through with it some time and it might as well be on the Lyskamm as anywhere.) Presently I began to feel happier and by the time we turned to come back down the arête, generally a more alarming process than ascending, it was all one whether we were walking on the edge of a precipice or on a flat glacier. So I hope that's over.

The *Lyskammgrat* is enough to strike courage into the softest heart.

It was 3 by the time we got down to the shoulder and I was so tired that I went to sleep for half an hour. We were going to sleep at the Margherita Hut on one of the peaks of Monte Rosa, and we had a most tedious 2½ hours round the head of an immense glacier and up a snow slope which was, as Schwartzen admitted, *ungemein lang*. The hut is 14,965 ft. up so you see there was a pretty long pull for the end of the day and one felt the elevation a little. The kind Italian guardian ran down the last slope towards us with a bottle of hot coffee which was most refreshing. It is a miserable hut, but one puts up with a good deal on the highest inhabited point in Europe. It's inhabited for two months a year. There is one observatory attached and two delightful Italian professors were up there making observations. They did me the honours and made me a bed in the Observatory sleeping room where I slept peacefully for an hour before dinner. They had a colleague up on a visit who was a Finn, a big, square man with a grave, unhappy face. He began at once talking about the war and 'We hope the Japanese are going to revenge us,' he said. The other inhabitant of the hut was an extremely

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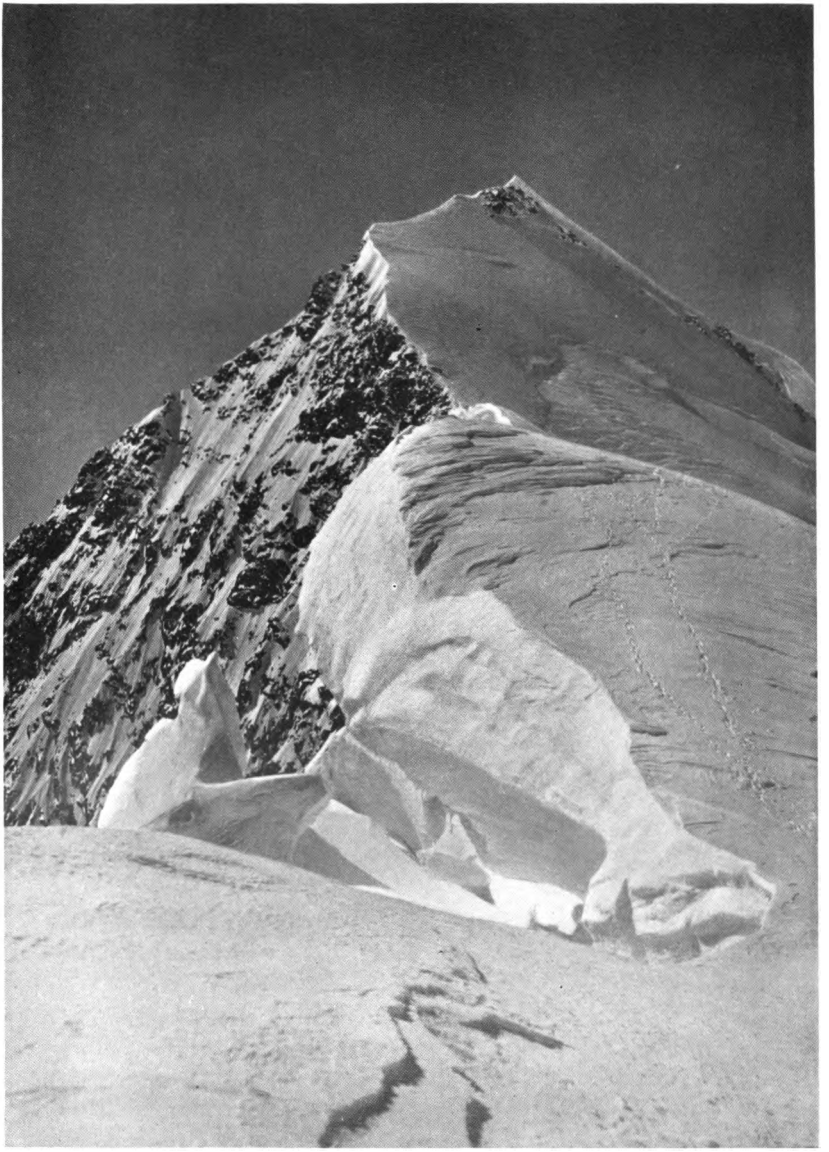

Photo, H. Speyer.

The great corniche on E. Arête of LYSKAMM.

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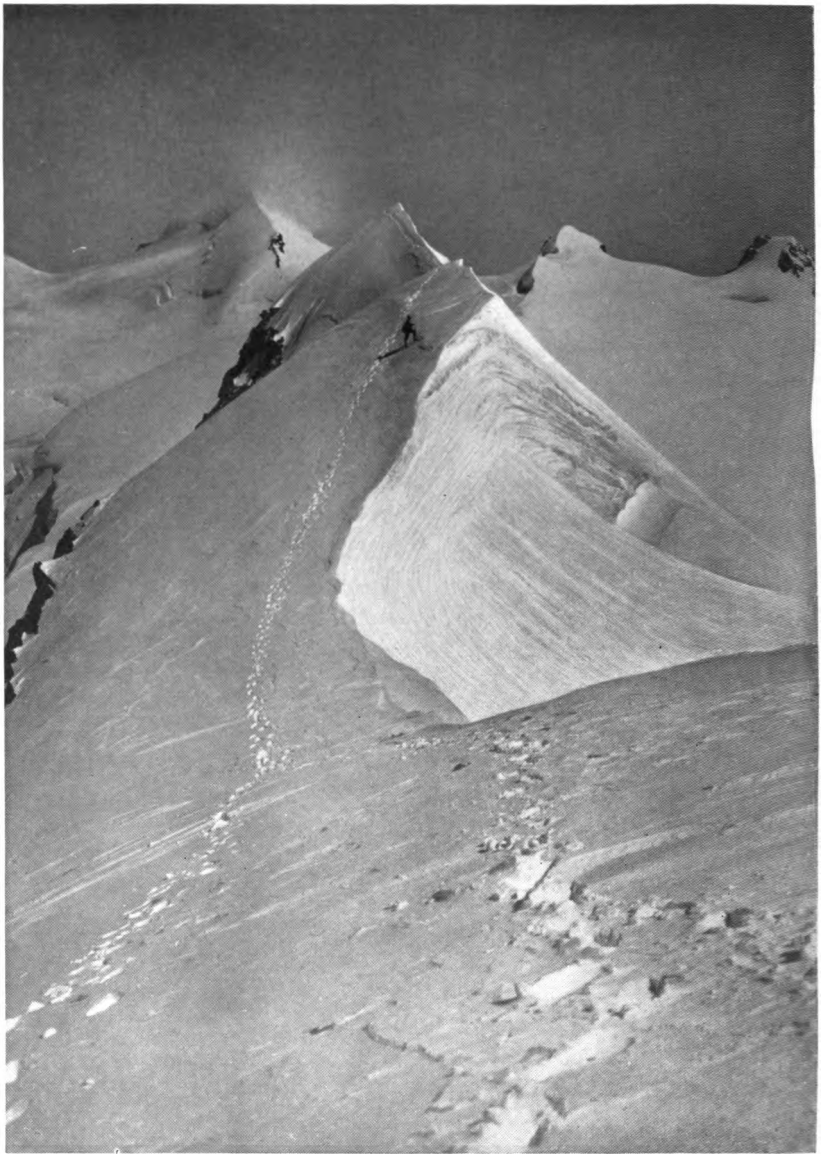

Photo, H. Speyer.

Looking E. from near the great corniche on the LYSKAMM towards Peaks of MONTE ROSA. (Note curious mist effects owing to warm morning following very cold night.)

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cheerful handsome Italian Captain of Cavalry who chattered agreeably during dinner in several languages. You may judge how exquisite were his manners when I tell you that he complimented me on my Italian! After dinner the professors invited us to dessert in the Observatory and gave us tinned peaches and wine and other delicacies—charming people they were. I had a bad attack of inflammation of the eyes in the middle of the night which caused me acute pain. Heinrich [6] treated it most successfully with a poultice of hard warm white of egg and in the morning I was nearly all right again. It had been a fearfully glaring day—mists with the sun shining through which burns much more, I always think, than clear sun.

We didn't start till 7 next day as we hadn't a very long climb in front of us. It was a gorgeously clear morning and the whole of Italy lay revealed at our feet. Monte Rosa is not a mountain at all, but a group of 7 peaks. We were at the top of the Signalkuppe, we traversed the Zumsteinspitze and climbed to the top of the Dufourspitze which is the highest and very little below Mont Blanc. This took us about 3 hours. We saw all the Alps in the world, the Oberland, Mont Blanc, the beautiful Italian group of the Grivola and the Paradiso and our own Pennines all round us. Then we ran down immense snow slopes and got back to the hut in which we had slept the first night in under 2 hours. So we came on here where I am settled till Tuesday morning. It was quite pleasant to come down to a lower level after spending 2 days so very high up—it is *very* pleasant indeed to be doing nothing after such a very energetic beginning.

Ever your affectionate daughter,

GERTRUDE.

(*Concluded.*)

[In printing these two letters, apparently the last still available of Miss Gertrude Bell's Alpine epistles, we again express our sincerest thanks to Sir Hugh and Lady Bell, as also to Sir Ernest Benn, for the honour and privilege accorded to the JOURNAL in being allowed to publish these unique and charming records of a few episodes in a great career.—*Editor*, 'A.J.']

[6] Fuhrer.

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The Mittellegi or East Arête of the Eiger.

By H. LAUPER, A.A.C.B., A.A.C.Z.

THE first attempt to climb the Eiger by the Mittellegi arête dates back as far as 1874, when on July 6 Messrs. J. W. and F. C. Hartley, with the guides Peter Rubi and Peter Kaufmann, set out at 5 A.M. from Alpiglen to reconnoitre the possibilities of this arête. The party ascended the extremely steep ice slope which sweeps down from the very crest of the ridge, and it was only after 5½ hours of strenuous step-cutting that the party gained the crest at 4.30 P.M. at a point now called the *Mittellegipass*, and in the neighbourhood of which the Mittellegi hut was built in 1924. The hour being too advanced for a further attempt on the peak itself, Hartley's party descended to the Kalligletscher and to Grindelwald.

The next party to try the Mittellegi, Mr. P. W. Thomas with Josef M. Biener [1] (1878), started from the Kallifirn and covered a considerable bit of the ridge, but failed to reach the top of the 'Great Gendarme.' At the end of August 1879 Messrs. J. Oakley Maund and H. Seymour Hoare set out for another attempt from the *Eigerhöhle*, but were forced by ice and adverse conditions to admit defeat before even reaching the point of the ridge where Mr. Thomas had been stopped. In 1881 Mr. Oakley Maund made another attempt, this time accompanied by Mr. J. Baumann and seconded by the guides Johann Jaun, Andreas Maurer, and Emile Rey. Mr. Maund's vivid account of this attempt, on which occasion the top of the 'Great Gendarme' was reached ('A.J.' **11**, 35 *seq.*), is well worth reading.

Four years later, on July 28, 1885, Herr M. von Kuffner, Oe.A.C., with two porters left Grindelwald at noon for the bivouac at the *Eigerhöhle*. His two guides, Alexander Burgener and Josef M. Biener, had started ahead to explore the direct ascent from the Kallifirn up to the gap to the S. of the 'Great Gendarme.' They returned to the *Eigerhöhle* with the news that the direct ascent was not to be thought of on account of overhanging rocks, but they considered that the ascent over

[1] One of the finest guides who ever put on a rope. His name is not mentioned even in *Pioneers of the Alps.—Editor.*

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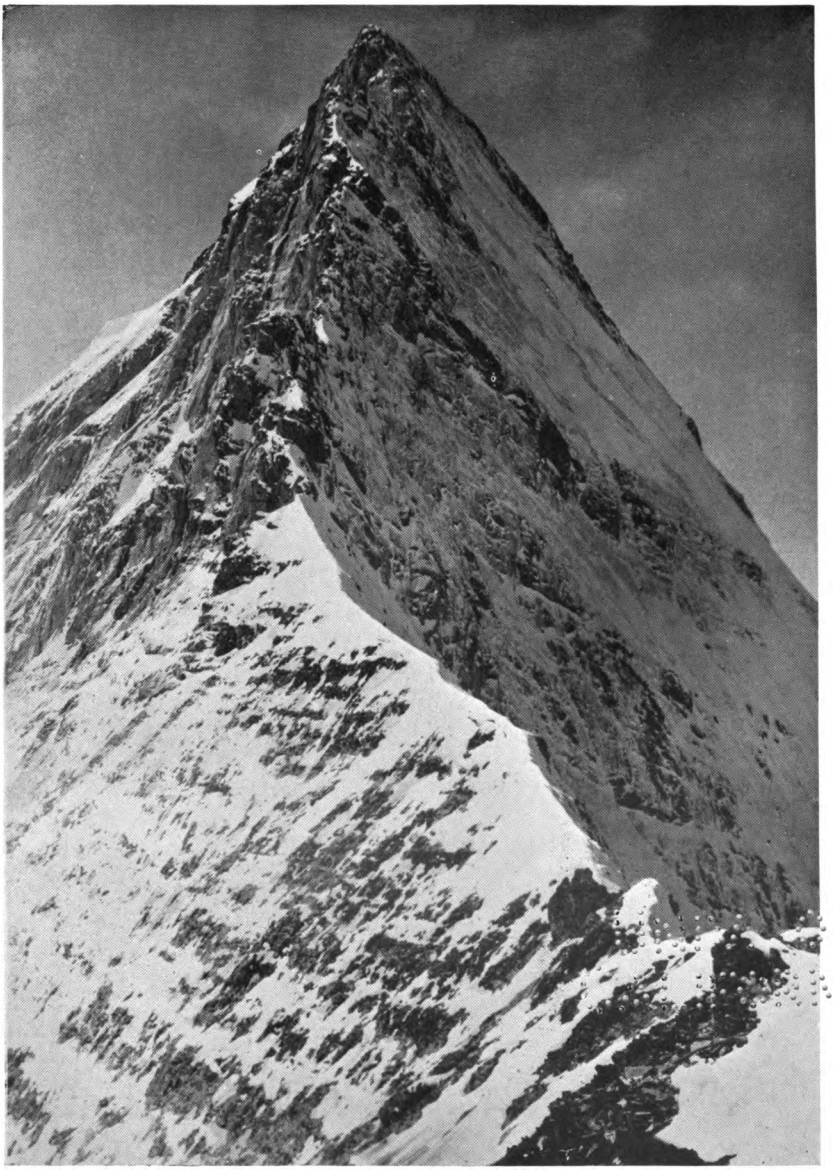

Photo, H. Lauper.

The MITTELLEGI Ridge.

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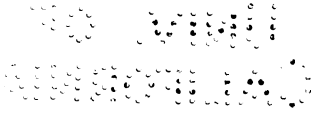

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the Mittellegi ridge, if possible at all, should 'go' in one day.

So Herr von Kuffner and his guides left the bivouac next day very early and gained the crest of the Mittellegi over the Kallifirn and easy rocks, E. of the first gendarme, at 3.30 A.M. Three gendarmes were climbed up to the foot of the 'Great Gendarme,' quoted on the *Siegfried map* with 3687 m. The ascent of this tower was made by Biener climbing on Burgener's shoulders. From there he succeeded in fixing a rope around some projecting knob, by which means and the additional push of an ice axe he managed to get on to the top of the gendarme. Now followed an easy bit of arête, and then, ascending a fifth tower, the last gendarme before the final rise of the Mittellegi ridge was climbed by a steep gully.

It was now 12.30. The guides proceeded to explore the descent into the deep gap S. of the 'Great Gendarme.' But things cannot have looked favourable, because at this point they resolved to try the *descent* from the top of the Eiger into this gap and *down* over the Mittellegi. For this purpose a rope was left on the 'Great Gendarme.' The party then began to retreat, reaching Grindelwald at nightfall.

For the planned descent nearly 200 m. of rope were obtained on the following day and another porter hired. Shortly after midnight on July 31 the party left the inn at the Kleine Scheidegg and reached the top of the Eiger at 7.20 A.M., where they rested for 45 minutes.

Leaving the porter behind to join another party for the descent, they began to climb down over the ridge, following the rock ledge to the S. of the snow crest forming the uppermost part of the ridge. At 9 A.M. they stood on the ledge where the ridge falls away in one sheer drop towards the Mittellegi. At first the party were able to climb down very close to the crest, but the farther they got down the more rotten became the rocks and many perpendicular or even overhanging steps were encountered. One place proved to be very dangerous especially; it consisted of a very steep step of 35 ft., beneath which a small inclined ledge had to be traversed. Another step had to be descended by means of a spare rope, whence once more they had to take to the N. face. Under great difficulties, but without an accident, the gap S.W. of the 'Great Gendarme' was at last attained—1.45 P.M.

Henceforward, the terrain being well known, good progress was made. At 7.15 P.M. the party left the ridge and descended to the *Eigerhöhle* where the night was spent. Next day it

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was raining, but Herr von Kuffner's party reached Grindelwald at 8 A.M.[2]

The same year (1885) witnessed two more attempts (Messrs. W. W. Graham and E. Boss with Ulrich Kaufmann, and the same year a party of Grindelwald guides), both of which came to a stop in the gap S.W. of the 'Great Gendarme.' Then for a few years the Mittellegi seems to have been left alone until in 1890 Mr. Claude A. Macdonald made an attempt with Christian Jossi and Ulrich Kaufmann, but was turned back by much fresh snow. In 1894 Mr. Macdonald attacked the ridge once more and got as far as the top of the third tower. This attempt calls for special interest as the descent was made over the N. face ('A.J.' **40,** 329). Mr. Macdonald was twice on the arête again, but the weather was always against him.

In 1904 Christian Jossi came back to the arête once again, when he and Fritz Amatter accompanied Mr. G. Hasler on the second descent. It is no wonder that a mountaineer like Mr. Hasler became quite fascinated by a ridge so much fought for, at the foot of which he had lived for so many years. Two months after his descent he bivouacked again on the arête with Fr. Amatter, and in 1906 also he was on the ridge again, this time with Mrs. Hasler and the guide H. Fuhrer. On each occasion the W. foot of the 'Great Gendarme' was reached, conditions preventing further progress.

Mr. J. Grande with Amatter, the Grindelwald guides E. and A. Steuri in 1912, Herr H. Pfann and Herr A. Horeschowsky in 1921, reached the same point. Pfann and Horeschowsky made also a fruitless attempt to descend from the top of the Eiger. Already Jossi had suggested ('A.J.' **40,** 330) the employment of iron pitons, but it was only in September 1921 that these means were adopted by Fr. Amatter, Fr. Steuri, and S. Brawand, when, with the Japanese climber Mr. Yuko Maki, they succeeded in accomplishing finally the ASCENT of the Mittellegi arête ('A.J.' **34,** 166–7).

Most mountaineers will certainly deprecate all such artificial aids. But in the case of the Mittellegi nearly fifty years had elapsed since the first attempt had taken place, and many a good climber had taken his shot without hitting the bull.

In 1924 the Grindelwald guides built a small but comfortable hut on the ridge (about 3200 m.), to the cost of which Mr. Yuko Maki largely contributed, and in 1925 Dr. von Kehl

[2] This, so far as I know, is the first account of the 'Kuffner' expedition to appear in English.—*Editor.*

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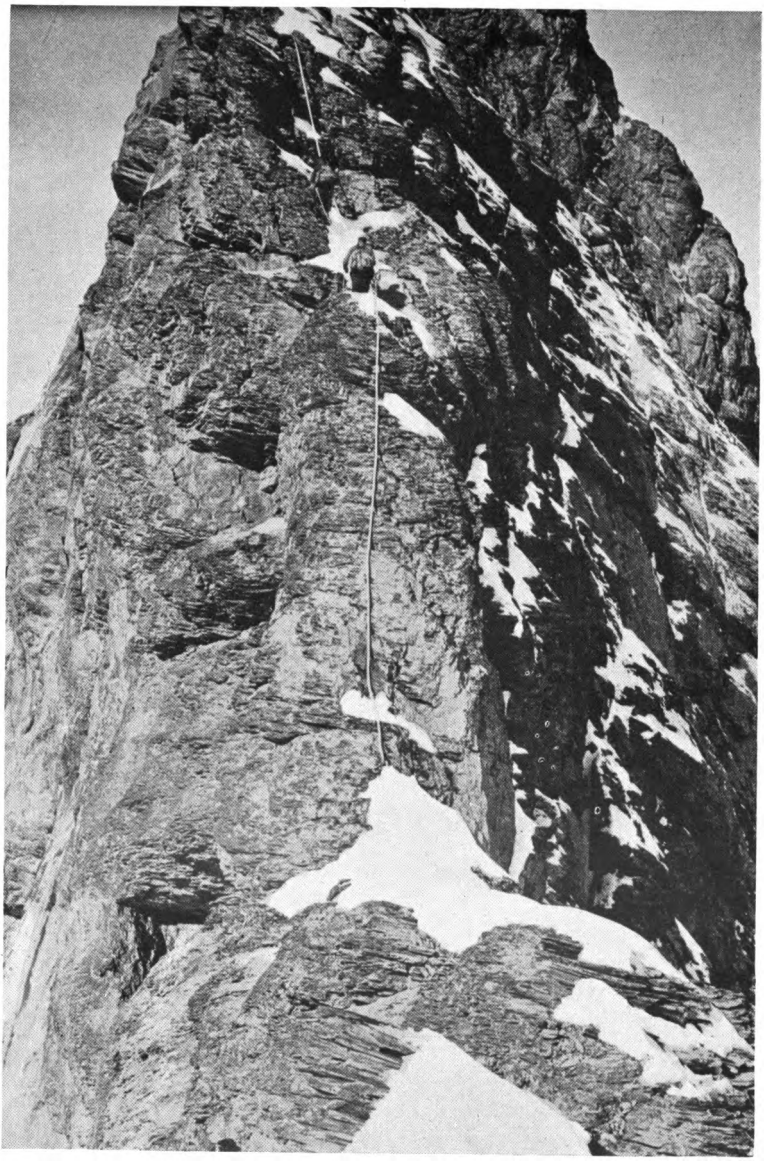

Photo, H. Lauper.

Upper part of first Gendarme.

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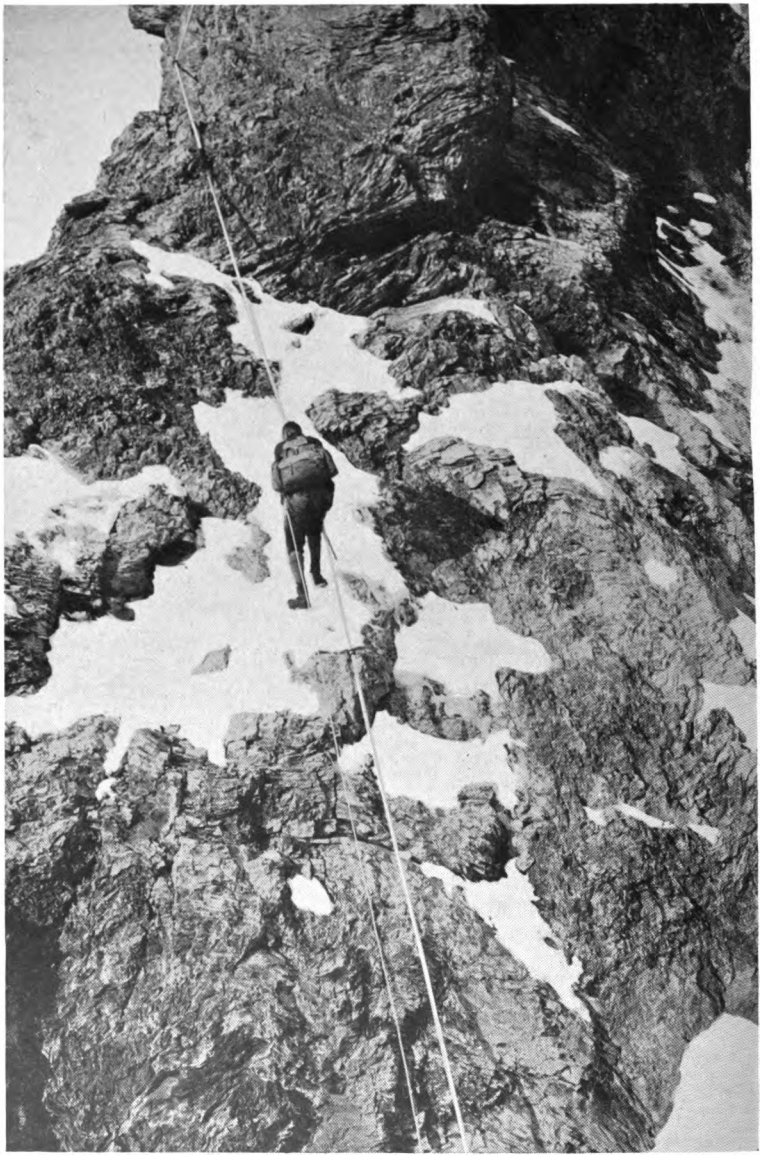

Photo, H. Lauper.

The Second Gendarme.

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with Fr. Amatter, Fr. Suter, and A. Rubi made the third descent, leaving a good deal of rope hanging, which later on facilitated the fixing of the permanent ropes.

And it is now that the writer of this paper must confess that without these ropes, which make the ascent of the Mittellegi possible for a man of his abilities, it would never have entered his head to set foot on this ridge. Having accomplished the climb (it is still a real climb in spite of the ropes!), and knowing the Bernese Alps fairly well, I may be allowed to declare it as one of the best climbs of this region, both as regards the climbing as well as scenically.

On September 9, 1928, my wife and I, with our young friend Peter Lendorff, A.A.C.Z., scrambled down the rope-ladder leading down from the Eismeer Station to the Kallifirn. Accompanied by two German climbers, who were planning the same climb, we strolled down the Kallifirn and climbed over the rather rotten but not difficult rocks up to the Mittellegi hut, which we reached in less than 2 hours from the station. This hut, poised above the great steep wall falling right away for some 1500 m. to the green meadows of Alpiglen, clings sensationally on to the narrow crest of the Mittellegi ridge. The ascent up to the hut, whether made from Grindelwald (5 hours) or from the Eismeer Station of the Jungfrau Railway, is in itself alone a fine excursion. The view from the hut is magnificent—on either side.

After a comfortable night we left the hut next morning at 6.30 A.M., half an hour after the German climbers. An easy, almost level snow crest led us to the foot of the first gendarme. Here we had already caught up the Germans, and as the ridge is very narrow and sharp and allows no variations, we had to tread on their heels right up to the summit of the 'Great Gendarme.' We did not find the climbing difficult, although the rock is very rotten. Just where one would have to hunt for hand- and foot-holds the permanent ropes show the way up. Some fresh snow concealing the rocks in places made us make use of these ropes without much speculation as to whether this be a fair way of climbing or not. As the leading party was advancing very slowly we had ample time to enjoy the view and the exposure, which is all the time quite sensational. By the time we had passed Mr. Yuko Maki's bivouac place, and about 9 A.M., the 'Great Gendarme' came in sight. But only after we had scaled another very steep step could we see before us, still ahead, the fantastic form of the true gendarme. This gendarme is only 15–20 ft. high, but its front overhangs with

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a considerable bulge. The Kalli face is very smooth and looks quite unassailable, while the N. face (where Emile Rey in 1881 turned this obstacle) is hidden by the crest. A little rope-ladder hangs down from the outcrop of rock to which Herr Kuffner's guide, J. M. Biener, in 1885, must have fixed his rope when his party conquered that tower by direct assault. It was here that the Germans allowed us to take the lead. With the rope-ladder to help us it was not difficult to climb this extremely exposed and airy rock step. A short walk on a level but narrow bit of the ridge brought us to the last gendarme E. of the great gap, on the top of which we sat down for breakfast at 9.30. The place was well chosen for a long rest, affording a fine view down over the sharp crest with the hut perched on its extremity like an eagle's nest, with the Wetterhoerner, and best of all the Schreckhorn, as a background.

A deep gap separated us from the great rise of the arête, the impression of which can only be described in the vocabulary of Mr. Geoffrey Young. The S. face consists of smooth slabs falling down nearly perpendicularly towards the Kallifirn, and the snow-covered N. face looks almost as unassailable were it not for the rope which shows that there exists some way up this terrific slope.

After a good rest we roped up again at 10.15 A.M. and descended into the gap.

And now began the real work of the day, the ascent of the final rise of the Mittellegi ridge, where, up to 1921, every party had been held up. An extremely steep step had to be climbed on the N. face, but very close to the crest. The few holds for hands and feet were hidden in fresh snow and very unreliable when, perchance, we found them. But where the rocks were free from ice and snow there was not much to get hold of. So, many times, we had to rely almost entirely on the fixed rope. This bit of the ascent must always offer considerable difficulties as it is extremely steep and the rocks are very smooth, as indeed they are on the whole mountain. We got to a small, ill-defined ledge which led us out on to the N. face. Another straight-up ascent brought us back on the ridge on warm, sunlit rocks, a welcome change after the traverse on the cold, shadowy N. wall. Other steep steps followed, we made good progress, and about noon the work lay behind us. Still, a good many steps of the ridge seemed to be the last before, finally, we got on to the sharp snow crest forming the roof of the summit.

We had gone through many stages of exposure during this most enjoyable climb, but then we had either had the ropes to

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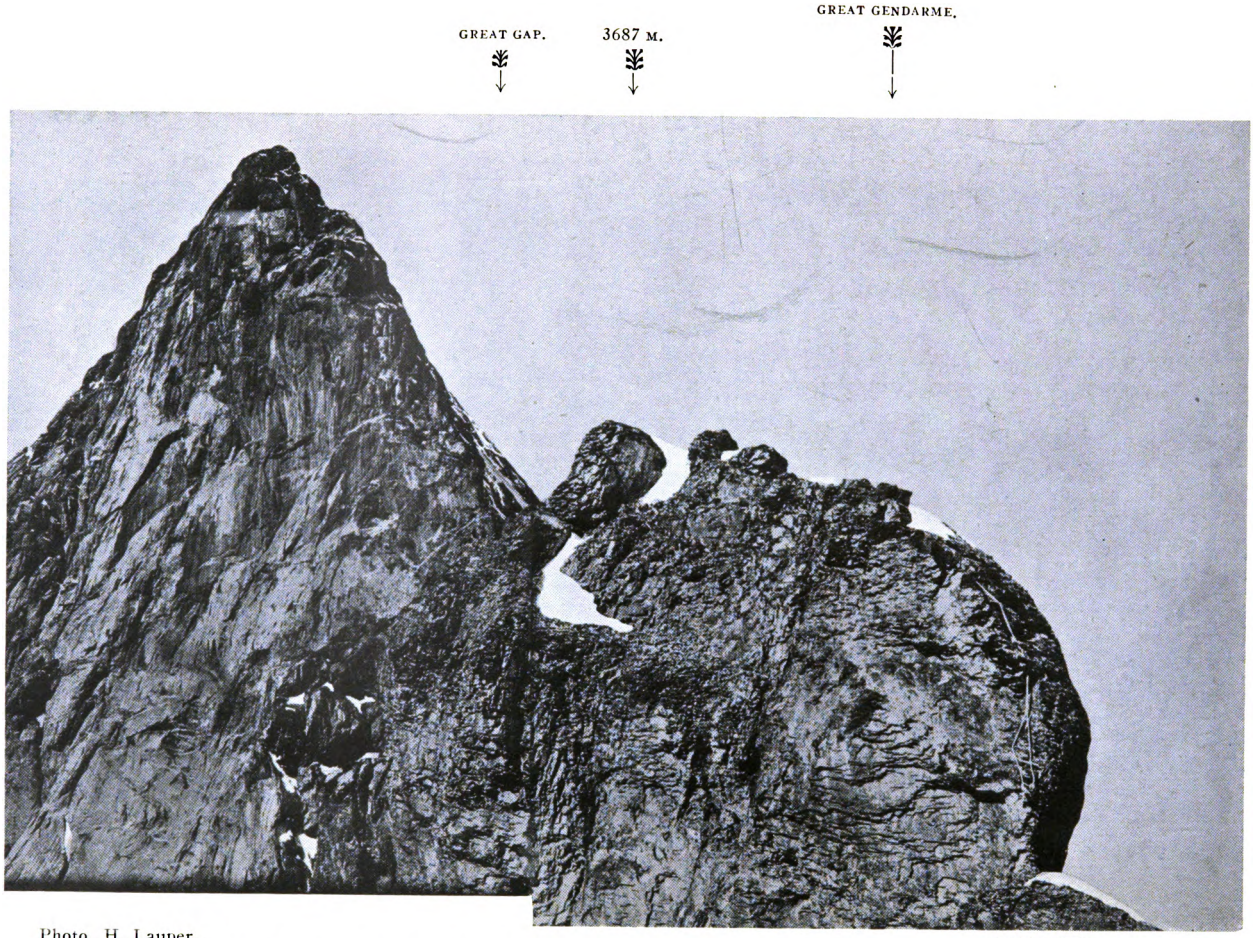

Photo, H. Lauper.

The KALLI face of MITTELLEGI and final rise of ridge; summit still invisible.

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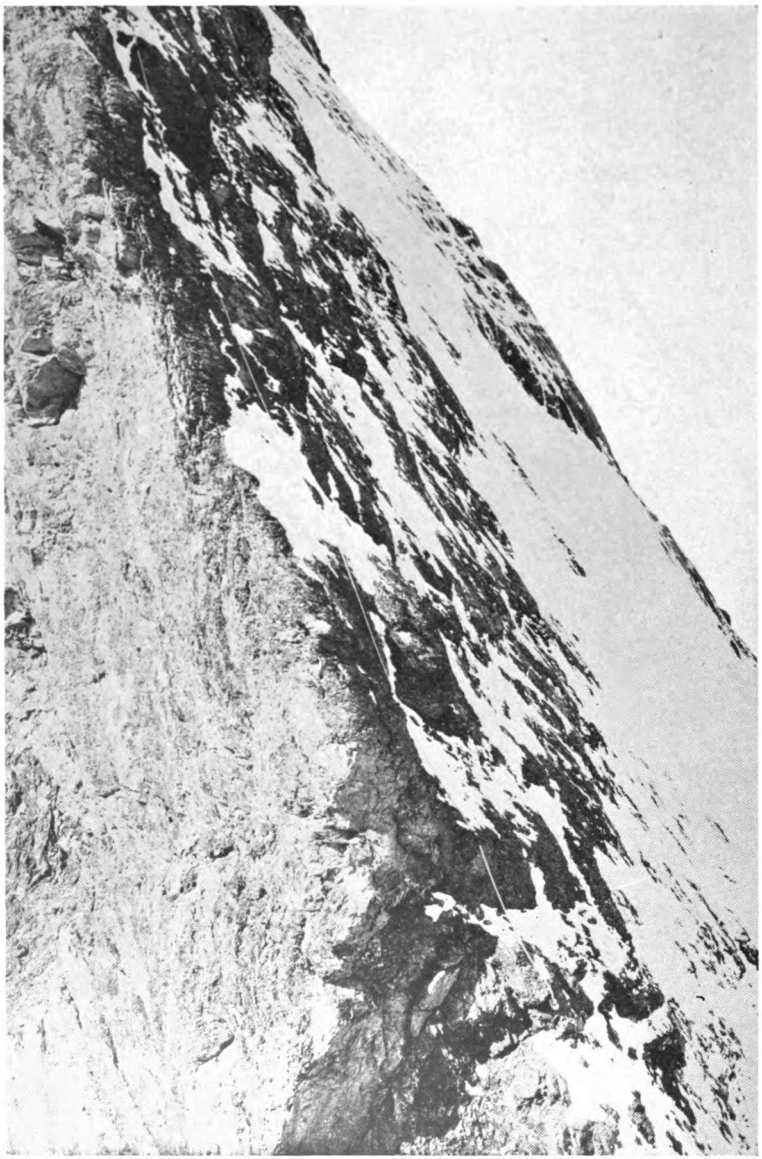

Photo, H. Lauper.

From the top of the Great Gendarme.

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steady us or the rocks to cling to, although these had mostly been very rotten, it must be admitted. But now we were advancing on the uppermost crest of our mountain, a crest sharp as a knife-edge and offering no support to our eyes but the slim undulating line running almost evenly towards the summit and the few yards of glittering snow on each side, and then nothing more between us and the crevassed Eismeer on one side and the green pastures of the Scheidegg on the other! I could not help leading myself up and along this lofty path, just for pleasure's sake, in spite of the remonstrances of my companions. But while we were slowly approaching the summit clouds came up and we could get only occasional glimpses of the fine view which the Eiger affords on a clear day towards the Schreckhorn, Fieschergrat, Mönch, and Jungfrau.

Presently we descended on the S. side for a few steps on to a ledge of rocks which brought us in a few minutes to the actual top of the Eiger, at 12.50 P.M.

The rest is soon told: We spent nearly 2 hours on the top waiting for the clouds to lift. But when these showed no disposition to do so, we descended towards the Eigergletscher. The snow arête just beneath the top was quite icy (as was to be expected so late in the season). Soon after we had safely reached the rocks, the fog crowded in on us, it became quite dark, and progress was, of course, very slow for a while. Fortunately it cleared up again, and from then on it was all plain sailing. At nightfall we arrived at the inn at Eigergletscher, where we met Fritz Amatter. He seemed to be very pleased when he learnt whence we had come and that we thought 'Mittellegi' to be one of the finest climbs of the Oberland.

[We must express our grateful thanks to Dr. Lauper for this most interesting paper and account.—*Editor*, 'A.J.']

TECHNICALITIES.

BY W. N. LING.

(Read before the Alpine Club, May 7, 1929.)

I HAD barely returned to my northern retreat after you paid me the honour of electing me Vice-President in December, when I was pursued by a peremptory demand from the

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Honorary Secretary that I should read a paper to the Club on 'Technicalities.'

Any of you who have had anything to do with the Honorary Secretary will know that it is quite useless to argue with him, and it was in vain that I pointed out that everything which could be said had already been said most admirably by our President in 'Mountaineering' and by Harold Raeburn and Geoffrey Young in their standard books 'Mountaineering Art' and 'Mountain Craft.' What I can tell you now are only my own opinions gleaned in thirty years' experience of mountains.

Let us begin with equipment, feet first. Every man has his own views about BOOTS and NAILS. I have found a narrow-welted boot with fairly light uppers, nailed with ordinary clinkers and good hobnails, renewed sufficiently often to keep them sharp, to be the most satisfactory for general use.

For a preponderance of glacier work possibly Tricouni nails are better. I have noticed that guides often have Tricounis in the heels and clinkers for the soles. For severe ice-climbs such as have been described to us lately by Smythe and Graham Brown, and by Porter in New Zealand, Eckenstein crampons are essential and for a party climbing from a centre they are a useful adjunct, but for ordinary work across country where weight has to be considered by an amateur party, I have found Mummery spikes for the heels and a couple of ice-nails for the soles sufficient in most cases.

In certain conditions of the snow, where balling occurs, crampons can be a danger and sometimes parties are apt to rely on them where steps should be cut. The accident on the Paradiso when four climbers were lost was attributed to this cause, and in spite of what has been said by authorities on crampons I am of opinion that a slip would be more easily checked when standing in an ice step than when holding to the slope by the points of the crampons.

Care should be taken that the bindings are not too tight, as this leads to frostbite. I had an experience of this in the Caucasus, fortunately without serious results.

As regards CLOTHING, Everest cloth,[1] Bedford cord or similar smooth-faced closely woven cloth is best.

Knickerbockers, cut fairly narrow at the knee, with a strap and buckle are the most suitable. The coat should be cut so

[1] For the *Alps*, when little underclothing is necessary, we venture to suggest that a thicker and more durable variety of this cloth might with advantage be manufactured.—*Editor.*

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that the arms can be stretched easily upwards and made to button up close to the neck. The pockets should not project as the corners are apt to be rubbed off when climbing rocks.

I wear a waistcoat with six pockets for carrying goggles (top pocket), flask, aneroid, compass, watch, knife, Sechehaye for the face, etc., where they are immediately available, and an inside pocket for carrying money.

A wide-brimmed single Terai hat, secured at the back by a hunting cord, protects the eyes and the back of the neck from the sun's rays. Helmet, muffler, two Shetland sweaters, two pairs of Shetland socks, in case of an involuntary bivouac, will be found useful.

One sweater should be put on next the skin under the shirt, and with two pairs of Shetland socks and the feet in the rucksack, as comfortable a night as can be expected will be spent. Long woollen gloves of hard wool coming well up the arm, with a piece of felt sewn in the back of the hand; Jaeger, or the gloves used by bottle-washers, are most suitable, and for rock climbing leather gloves protect the hands from cuts, although the fingers soon get worn out. They can, of course, only be used when the rocks are dry.

A thin sock under the stocking prevents rubbing, and an ankle puttee keeps out the snow. The full-length puttee is apt to be too tight or too loose, and I have found the ankle puttee quite sufficient. A hook sewn on the puttee to fix on the lace of the boot prevents the puttee sliding up in crusty snow.[2]

For Rucksacks I have a bag made of Burberry or similar waterproof with eyelet holes and fit it up myself with straps, a pair of braces, avoiding any metal rings or any unnecessary weight. Inside this I use a bag of jaconet or light waterproof to keep special articles dry.

Some climbers speak well of the Bergan sacks with frame, holding that the extra weight is compensated for by the increased comfort. I have not tried them; perhaps some of those who have will give their views.[3]

My friend Unna, to whom weight is no object, carries an enormous sack with a frame and when it is full and with his boots tied on the top, for he prefers to walk up to a hut in tennis shoes, it presents a formidable appearance; so much so

[2] By far the best puttees are those supplied to the Everest expeditions as ordered by General Bruce. They are made in Nepal, are of full-length and can be worn with or without a 'twist.'—*Editor.*

[3] Useless in a chimney or on difficult rocks.—*Editor.*

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that it prompted a foreign climber last summer to inquire 'Have you not a donkey?' He was rather taken aback when I invited him to accompany the party in that capacity.

For a guideless party, who have to do their own step-cutting, a Swiss guide's ICE AXE is best. For a *beginner*, with guides, the guide's axe may be too short and cause him to lean in too much to the slope. The leather band which is sometimes nailed on the axe to prevent the hand slipping down the shaft should not be used. It weakens the axe, as was proved in the accident on the Aiguille Verte last year, where the axe used for a hitch was found to have snapped at the band; the wood was weakened by the nails and the damp under the band, thus causing the wood to perish. It also makes probing in snow and withdrawing the axe more difficult. When putting the axe away at the end of the season, it is well to rub the shaft with linseed oil and the metal with vaseline.

AXE-SLINGS are rather troublesome, and if left on the axe are apt to get cut through when cutting steps. They are sometimes necessary on rocks, but even then can often be dispensed with if care is taken in handling the axe, or if the latter is put through the rope round the waist.[4]

As regards ROPE, Beale's rope and Alpine 'line' cannot be beaten.[5] It should always be examined before use for cuts,

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[4] While agreeing with Mr. Ling, we should like to add that the 'Wilson' sling, invented by the President, is the best we have seen. It can be slipped on or off the axe in a moment.

If a *short* axe be used and strong *leather* straps on the rucksack, loops can be made, one on each side, to fit into the *front* straps of the latter, secured by a brass rivet. Into the loop the axe is then passed, the head coming up near the armpit and the spike being carried well clear of the ground. Some care and practice is needed at first. Many Oberland guides use these loops.

No description need be given here of the 'Fynn' sling invented by the late Mr. V. A. Fynn and used largely by the late Captain Farrar. Although effective for its primary purpose—cutting steps down hill with no risk of letting go of the axe—it proved useless in bad weather owing to ice forming on the shaft and was a positive danger in probing. This sling will be noticed in the portrait of Mr. Fynn in the present number.—*Editor.*

[5] The 'Frost' Alpine 'line,' as supplied to the Everest expeditions, proved invaluable. One such was used in the Alps, unbeknown to its owner, in hauling up a motor car fallen some 50 ft. into a ravine. Although twenty men were employed in hauling up the car, the rope refused to break, and the owner continued, innocently, to use the same rope for the remainder of the season!—*Editor.*

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and care should be taken that it is not packed or put away damp. I remember a case in Scotland when a rope had been packed immediately after use and the baggage went astray for a week. On being tested it at once broke in pieces. It is better to have too much rope than too little.

Of the making of knots there is no end and an exhaustive treatise on this subject has appeared in the last two numbers of the JOURNAL; many of the knots are most useful and ingenious and I am told can be practised with a piece of string. In practice, the bowline, the middleman noose, and the knot joining two ropes together will be found all that is necessary.

It is essential that every climber should be able to make his own knots, as it may happen that, if more rope is required, he may have to unrope in an awkward position and tie on again when his leader has reached safety. For sending up sacks a loop of the rope can be knotted through the ring at the top. For axes, a clove hitch under the head and another near the bottom are used. There is an excellent illustration of this in the President's book.

The question of FOOD and COOKING has been much simplified by the improvement in the aluminium vessels designed for the purpose and by the discovery of Meta; and every guideless party should be provided with the means of making hot soup or tea in case of a bivouac, or of any of the party becoming incapacitated through accident or fatigue. It is surprising how a tired party will recover its energy and morale after a seasonable halt and hot drink, especially tea. Sugar is a necessity and in the form of jam will often help the swallowing of the somewhat unpalatable bread which is often all that can be got in out-of-the-way places. Rusks are good but bulky and brittle. Eggs wrapped in paper can be carried in the cooker.

For a party which may have to BIVOUAC, and this is always a possibility for a guideless party, especially on an unknown mountain, eiderdown quilts will be found very comforting. They are bulky, but light, and can be strapped on the top of the rucksack. I remember sleeping out between 13,000 and 14,000 ft. in an attempt on Ushba with one such quilt for two of us and we passed a not uncomfortable night.[6]

As regards LANTERNS, the old-fashioned 'Excelsior' folding lantern is still the best. A smaller pattern is also made, but this gets too hot and melts the candle. Electric torches are

[6] There is also the now well-known Zdarsky tent-sack, *A.J.* **38**, 146–7.

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heavy and *each* member of the party requires one for himself, whereas one of the folding lanterns suffices for a party of three.

ALCOHOL should not be taken on a mountain, though a small flask of brandy should be carried for emergencies. I remember a very cold night out when we had to stand on a ledge for nine hours in a storm, with chattering teeth and shivering bodies, when it was a great temptation to use the flask, but we resisted until it was time to move on, when we had a small sip each to start the engine. So much for equipment.

As for the actual CLIMBING itself: like everything else worth while it has to have a beginning, and two or three seasons at least, behind good guides, observing their methods and actions in dealing with ice and rock conditions, are necessary. Men vary much in natural aptitude and balance as well as in their physical characteristics of length and breadth, but by observation they learn how to use their bodies to the best advantage. A man who is strong in the arms and hands is apt to jump at his holds, but he must remember that they may come away with him; the slow upward drag, not leaving one hold till he is sure that the other is safe, is the correct method. The fly-catcher is not a safe climber, and he must remember that the arms give out before the legs, which are the progressive members. Strict attention must be paid to the rope, to see that there is no slack which may catch, or dislodge loose stones to the danger of the rest of the party.

The rope should be kept taut but not jerked or hauled. There is nothing more annoying or dangerous than a jerk when the next man is descending a difficult step or about to cross a crevasse. One should remember that one has just descended or crossed it oneself, and not run on until the other man is down. It is better to put on the rope too soon rather than too late, and as soon as one is no longer comfortable, the rope should be called for; false pride is out of place here.

These, of course, are commonplace to the experienced climber, but are worthy of the attention of the beginner.

A great deal of the technique of rock-climbing can be learnt at home, in Wales, in the Lake District and in the Highlands, and snowcraft also, more particularly in the Highlands in the early spring months. Ben Nevis, in March or April, in wind and cold, can be as severe a test as is generally found in the Alps, and the gullies are not innocent of the danger of avalanches, as I know from personal experience, where with two members of this Club I was carried down 600 ft. and only stopped just in time before a drop of 200 ft. sheer. The possibility had been

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present in my mind, and I had been testing the snow and misjudged it safe.

This training is all to the good, but the beginner has no opportunity of learning about glaciers and ice and snow conditions as they obtain in the Alps, and this is why I am an advocate for two or three seasons with guides, and another two or three with experienced amateurs, before undertaking the leadership of a party. It is well to have some training walks and easy expeditions before tackling a really difficult climb, especially if one leads a sedentary life. The improvement in balance and the confidence that arises therefrom are very marked.

The number of the members of a party has always been a fruitful source of debate; the real point is the *nature* of the work to be undertaken. If it is largely glacier, three or four is a good party. For a difficult rock or ice climb I favour two. Speed is often vital and tends to safety, where a larger number would incur grave risk. An avalanche track may have to be crossed at speed, or rotten rocks climbed where the climbers must keep close together.

I have climbed a great deal in a party of two, and if proper precautions of a doubled rope, or a spare rope carried by the last man, with an organized programme of procedure, in case of a fall into a crevasse, are taken, even glacier work is comparatively safe. The only time I remember having a man in a schrund was when we were a party of three descending the Schreckhorn.

A short time ago I had occasion to look up some point in the first volume of the Scottish Mountaineering Club Journal and the Editor heads his preface in capital letters:

'LET THY WORDS BE FEW.'

It is an admirable motto, and as the intention of the Honorary Secretary in imposing on me the duty of writing, and of inflicting on you the penalty of hearing this paper, was to initiate a discussion on what he calls 'Technicalities,' I think I may now be permitted to draw these random and somewhat egotistical remarks to a conclusion and allow you to hear the views of the many experienced and distinguished mountaineers who are present to-night.

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The Stubai Alps, Tyrol.

By J. W. WYATT.

HAVING spent over two and a half months this summer at Mieders in the Stubaithal, and having done a little mild climbing and scrambling in these Alps, a few notes on the district and the climbing to be had there may be of interest to members of the Club. The Stubai Alps do not appear to be much visited by English climbers, and I can find very little mention of them in the Journal, nor of the adjoining Alps of the Oetzthal and Zillerthal.

Three main valleys run south from the river Inn in the neighbourhood of Innsbruck, the Oetzthal, the Stubaithal,[1] and the Zillerthal. The head of each valley is closed by a range of snow-clad peaks, culminating in the Wildspitze (12,379 ft.) in the Oetzthal, the Zuckerhütl (11,516 ft.) in the Stubaithal, and the Hochfeiler (11,554 ft.) in the Zillerthal. The Oetzthal Alps are the more massive and extensive of the three groups, but although the highest peaks of the Oetzthal overtop those of the Stubaithal by about 800 ft. and the snow and glacier fields are larger, from what I am told, the best climbing, both on snow and rock, of the three districts is to be found in the Stubai Alps.

These Alps consist, roughly, of an elevated backbone 9000 ft. high and upwards, in the shape of an inverted interrogation sign ¿, with the leg running north and thinning off in the direction of the Inn valley. The range may be said to begin with the Habicht on the east, a very fine isolated peak of 10,760 ft., and continues westward in a big bend with the two Feuersteiner peaks, the Wilder Freiger, Zuckerhütl, Schaufelspitze, Windacher Daunkogel, Wilde Leck, Ruderhofspitze, and Schrankogel; from here the range runs almost due north and finishes in the neighbourhood of Kühtai, above the Ober Innthal, at a height of just under 10,000 ft. A feature of the main part of the range is that there is no pass or col across it under 3000 m., and except in one case, the Mutterberger Joch (3018 m.), all are snow or glacier cols at all seasons.

The main chain of these Alps consists almost entirely of

[1] The Stubaithal proper drains into the Sill, a tributary of the Inn.

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primary rocks, mostly gneiss and mica-schists, but two spurs of limestone peaks, of the Trias period, branch off from the Alps proper and enclose the Stubaithal on both sides: the Kalkkögel on the west, and the Serleskamm on the east side. There is also another spur of limestone peaks running due east from the two Feuersteiner and culminating in the Pflerscher Tribulaun.

As regards climbing centres, Mieders (3125 ft.) is perhaps altogether the most convenient; it is only three-quarters of an hour from Innsbruck by a daily service of autobuses, and the hotel is good, comfortable, quiet, and very moderate. Fulpmes and Neustift, further up the valley, are also good, but both are apt to be overcrowded in the season. On the other side of the valley, from Mieders, a mountain railway runs from Innsbruck to Fulpmes, which is the principal village of the district.

On July 15 my son and I, with a friend, Dr. Catford, engaged a local guide, Bartlmä Ribis of Neustift, and drove up to Ranalt (4133 ft.), a small and picturesquely situated hamlet at the foot of the Maierspitze, where the valley branches in two, the east branch called the Langenthal, and the west branch the Mutterbergerthal. We walked up the Langenthal to the Nürnberger hut (7535 ft.), near the foot of the Grüblferner glacier under the two Feuerstein peaks. Those of us who have climbed the Austrian Alps or the Dolomites will know and appreciate the excellent system of mountain huts, really small hotels, well equipped and provisioned, at elevations of from 7000 to 10,000 ft.; they are constructed and managed by the German and Austrian Alpine Club, and, in one or two cases, by the Austrian Touring Clubs; in S. Tyrol, now, by the Italian Alpine Club.

The following morning we made an early start and traversed the Wilder Freiger (11,242 ft.), a 3 hours' climb; there is a clearly marked track the whole way and the climb presents no difficulty whatever. After crossing the snowfield of the Grüblferner we reached the N. arête, where we breakfasted, and then crossed a steepish snow slope to the summit. The weather was perfect and the view very fine and extensive, embracing practically all the Alps from the Gross Glockner to the Piz Bernina; we saw the whole of the Dolomites from the Sextener Dolomites, across the Adige valley, to the Brenta group, nearly all the principal peaks being visible.

The Wilder Freiger is now on the frontier between Austria and Italy, so we descended the Italian side, down a steep

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snow slope, across a small bergschrund and then along the upper névé of the extensive Uebelthal Glacier to the old Müller hut on the Pfaffenniederjoch, now known as the Rifugio Cima Libera, and taken over and run by the Italian Alpine Club. The height of this hut is 10,295 ft., and close by it, at the foot of the S. arête of the Wilder Freiger, is another hut, at a slightly higher elevation, the old Becher Haus, now the Rifugio Regina Elena, also run by the C.A.I. We were able to get good bedroom accommodation and all we wanted in the way of meals. We spent the afternoon sun-bathing and flower-hunting on the rocks.

Next morning we had first about an hour's easy climbing up the E. arête of the Wilder Pfaff (11,386 ft.), from where we had a good view of the cone-shaped peak of the Zuckerhütl (11,516 ft.), the highest summit of the Stubai Alps. Between the Wilder Freiger and Wilder Pfaff we were on or across the Italian frontier, but at the latter peak it turns abruptly S. and follows the watershed between the Inn and the Adige, the rest of the range westward being entirely in Austrian territory. We had passports with us, but had no difficulties or trouble; we were told that it is forbidden to cross the range and descend into the Italian valleys, but that it is permitted to cross over to use the Alpine huts situated on the Italian side.

From the Wilder Pfaff we had a short descent of about 350 ft. over loose rocks and snow to the Pfaffen Sattel, and then climbed up the steep E. ridge of the Zuckerhütl; we kept on the snow for about halfway up and then took to the rocks on the left, leaving ice-axes at the foot of the rocks. It is only about 500 ft. up from the Sattel and, although very steep, is not difficult; it is also possible to keep to the snow arête all the way, but, with unfavourable conditions, this might be difficult or entail step-cutting. It is a short but bold peak and, of course, a fine viewpoint, especially of the Oetzthaler Alps.

We came down again to the Pfaffen Sattel and retrieved our axes. There is a fine icefall on the N. face of the Zuckerhütl, under which we went and across the névé of the Sulzenau glacier to the Pfaffenjoch, a pass between the Zuckerhütl and the Aperer Pfaff, and then down the Pfaffen Glacier to the Hildesheimer hut (9543 ft.). We got here about midday and found the hut packed to overflowing, inside and out, with tourists and climbers of all sorts, and it was a regular scramble to get something to eat.

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After lunch we had a stiffish climb of some 1500 ft. up rocks and the Geisskar Ferner to the Isidor Nieder, and then up a well-marked but steep track over rocks and loose slabs to the top of the Schaufelspitze (10,932 ft.), from which we got a good view of the more northern part of the range. We came down again to the Isidor Nieder Joch, but the N. side was a steep ice-slope, requiring much step-cutting and, moreover, seemed to be raked by falling stones, so we crossed a small rock ridge to the adjoining Bildstöckl Joch and had a tedious descent down soft afternoon snow on the Schaufel Glacier to the Dresdner hut (7570 ft.), at the head of the Mutterbergerthal. This is a large and well-equipped hut, containing no fewer than 25 beds and 75 mattress bunks ; it was also packed to overflowing and we could only get mattress accommodation. It commands a good view of the Schaufelspitze and the much-crevassed icefall of the Fernau Glacier.

The following day we walked comfortably down to Ranalt and drove back to Mieders. In passing along the Mutterberg Alp I was surprised to see the Parsley Fern (*Allosorus crispus*) growing in quantity on the screes—it reminded one of N. Wales. We had altogether a fine but somewhat strenuous four days' tour, with perfect weather throughout. We liked our guide Ribis ; he is not only a good guide, but a cheerful and amusing companion.

The only other climb on the main range I was able to do was the Habicht (10,760 ft.) ; this is a fine and massive peak, rising steeply and abruptly on all sides. My son and I, without a guide, left Mieders on August 27 and walked up the Pinnisthal in $3\frac{3}{4}$ hours to the Innsbrucker hut (7768 ft.), on the Pinnisjoch. The Pinnisthal is a wild and secluded valley, and the scenery impressive ; the Habicht towers up, blocking the head of the valley, and on the left rise the huge precipices and rock gullies of the Serleskamm peaks. On breasting the Joch, one has a good view of the Pflerscher Tribulaun, the finest and most imposing rock peak in the district.

The next morning we had an arduous and very steep climb of 3000 ft. up the E. face and arête of the Habicht to a small hollow filled with snow and ice, and from which the final peak rises. The route up is marked the whole way, and the climb, although steep and fatiguing, is not difficult ; the worst parts are protected by wire ropes, iron rings and stanchions. We took a rope with us, but did not use it.

We thought of making a traverse by descending a short

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distance along the S.W. arête and then down a steep gulley on to the small Glätteferner and working back to the hut round the south of the peak; having no guide, however, and being uncertain as to what difficulties we might meet with, we deemed it wiser to return by the way we had come up. The snow on the ice-slope [2] just below the summit was now softened by the sun and some step-cutting was necessary; we saw one man slip and shoot down about 30 ft., cutting himself rather badly on the ice and rocks. One woman, also, frequently upset stones, and we gave her a wide berth when descending the steep slabs and chimneys on many parts of the descent. It took us 2¾ hours from the hut to the top, and 2½ hours down. We walked on down the Pinnisthal to Neustift and motored back to Mieders—a long descent of some 7600 ft. and both hot and tiring.

The Habicht is a fine mountain and a good climb. It can also be ascended up the N.W. face from the hamlet of Krössbach over the Mischbach Alp and glacier; it is a difficult ice and rock climb, but said to be one of the finest of the Stubaithal.

My son and I had the intention of again taking Ribis for two or three days and exploiting another part of the range; a bad spell of weather, however, and other circumstances prevented our doing so. I mention this because I think it would make another fine expedition.

We were going to walk the first day up the Oberbergthal from Neustift to the Franz Senn hut (7128 ft.) on the Alpeiner Alp and close to the foot of the Alpeiner Glacier, one of the largest of the district. The next day we were to traverse the East and West Seespitzen, respectively 11,218 ft. and 11,110 ft., and then by the Hochmoos Scharte climb the Ruderhofspitze (11,388 ft.); from there cross the head of the Alpeiner Glacier, over the Wildgratscharte and up the E. arête of the Schrankogel (11,480 ft.), the second highest peak of the range, and sleep that night at the Amberger hut (7056 ft.) at the head of the Sulzthal. The third day we intended to go up the Sulzthaler Glacier and climb the east arête of the Wilde Leck or Atterspitze (11,010 ft.), which is a fine-looking rock pyramid, said to be rather difficult but to be one of the best arête climbs in the district; we would have returned over the Daun Joch to the Dresdner hut and so back home.

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[2] I have vivid recollections of the danger from avalanches incurred on the descent of this very fine peak in early June 1892.—E. L. S.

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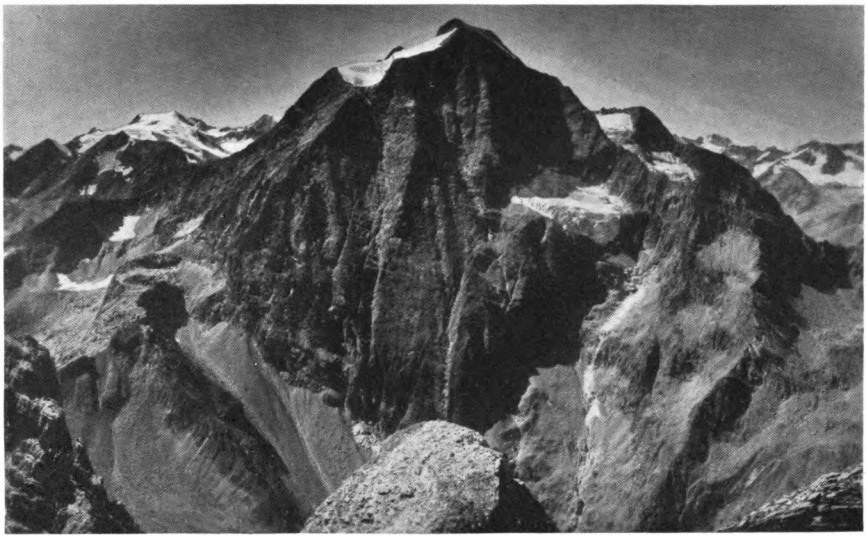
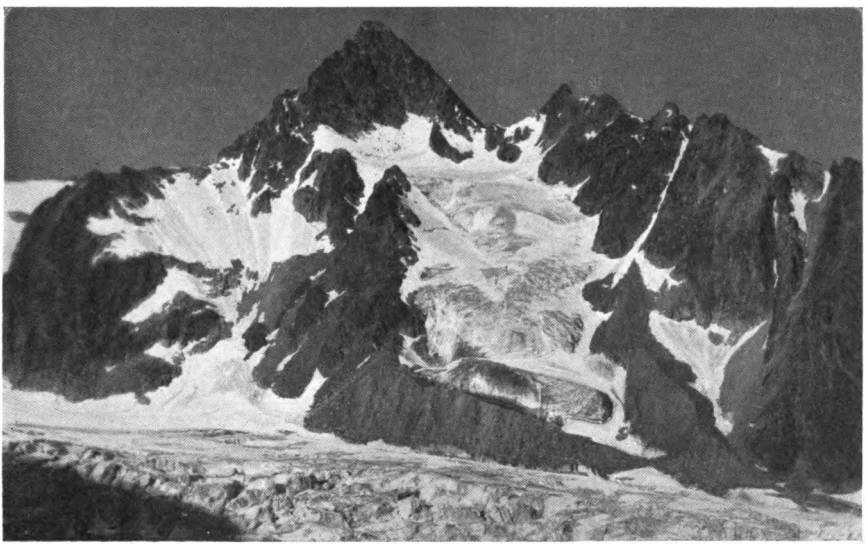


Photo, R. Müller.

The HABICHT.



Photo, M. Heiss.

The WILDE LECK.

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Photo, M. Heiss.

APERER FREIGER, WILDER PFAFF, ZUCKERHÜTL
from MAIER SPITZE.

Photo, R. Müller.

KALKÖGEL from KEMATER ALM.

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There are, of course, many other peaks affording good or interesting climbing, the principal perhaps being the Sonklarspitze (11,400 ft.), the Stubaier Wildspitze (10,962 ft.), the Windacher Daunkogel (11,031 ft.), Hohe Villerspitze[3] (10,182 ft.), etc.

I did not expect to find such large expanses of névé fields and glaciers in these Alps, considering their comparatively low altitude; I fancy the snowfall during the year must be considerable. The glaciers themselves are not much crevassed and do not come down far into the valleys, but they have generally fine icefalls as the valleys themselves are deeply cut.

As to the pure rock climbs of the district, they may be divided into three groups:

(1) The Tribulaun Kamm.—The rock climb, *par excellence*, of this group is the Pflerscher Tribulaun (10,175 ft.), a fine rock mass, rising abruptly and precipitously for about 1500 ft. to 2000 ft.; it is a difficult climb, requiring in one place 40 metres of rope,[4] and is, moreover, liable to falling stones. The other peaks on this spur, Gschnitzer Tribulaun (9700 ft.), etc., are not so difficult.

(2) The Kalkkögel.—This range of peaks is quite distinct from the others; they are called the Stubai Dolomites and are dolomitic both in character and appearance. They extend from the Hoher Burgstall in the south to the Marchreissen Spitze in the north, and consist of a chain of abrupt and sharply defined rock masses, interspersed with needles and towers, somewhat, in miniature, like the Drei Zinnen and Vajolet Thürme in S. Tyrol. The highest peak is the Schlickerseespitze (9248 ft.) at the south end and they vary between that and 8350 ft.

Early in August I went up to the Starkenburger hut

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[3] In 1892 this peak, of which I believe the first ascent was made by Karl Gsaller in 1878, and by the S. arête by Emil Zsigmondy in 1882, was considered erroneously as the most difficult in the Stubai range. The Pflerscher Tribulaun unquestionably merits (or merited) the distinction.—E. L. S.

[4] My recollections of an ascent made in 1892 from Inner-Pflersch *via* the Sandesjoch do not include any place necessitating such an amount of rope. Possibly a different and more difficult route is taken now so as to avoid danger from the numerous falling stones. [Mr. Wyatt informs me that a more difficult route is, in fact, taken now from the Sandesjoch, *i.e.* by the W. arête and that there *is* one place where 40 m. of rope are necessary.]—E. L. S.

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(7310 ft.), at the foot of the Hoher Burgstall (8571 ft.), which I traversed; it is an easy ascent with a steep descent on the other side to the Schlickerthal, a narrow and picturesque valley which skirts the foot of the range. A fortnight later I went up from Mieders by the Schlickerthal to a col in the centre of the chain, called the Alpenclubscharte, about 8000 ft. high, to climb the Marchreissen Spitze (8605 ft.). From just below the col on the Stubai side, a narrow and somewhat breakneck track skirts under and across the spurs of the various peaks and needles to the foot of the Marchreissen Spitze; it is known as the Gsaller Weg, named after Gsaller who made the first climb of this peak in 1879. It took 1¼ hours to traverse it, and, although not really difficult, requires surefootedness and a steady head.

The Marchreissen Spitze is a fine peak, and from it there is an extensive view up and down the Inn valley, backed by the Karwendel range and the Bavarian highlands to the Zugspitze. It is worth doing. The ascent of the N. face looked a good climb of about 1500 ft., but distinctly difficult—it is said to be one of the best rock climbs in this group. Also, on September 3, I climbed the Schlickerseespitze by the Schlickerscharte, the See-jöchl and the N.W. face. The ascent is steep but not difficult, over rather rotten rocks and scree, with a little rock scrambling at the top. It took an hour from the See-jöchl.

The ascents are all more or less short, not more than 500 ft. to 1000 ft., and of various degrees of difficulty. They include the Schlicker Nadeln, Thürme, and Zinnen, and are perhaps easiest taken from the Adolph Pichler hut on the western side.

(3) The Serleskamm.—This chain of peaks is of a different nature again and mostly of what is known as the writing-desk formation, sloping more or less gradually on the eastern side and falling in imposing precipices to the Stubaithal and the Pinnisthal.[5] They present no undue difficulty. The highest point in the chain is the Kirchdachspitze (9315 ft.), and it extends from the Serles or Waldrastspitze—the peak so

[5] In 1892 several of these peaks were still unclimbed, notably a double-headed rock peak, then known locally as the Ilmerspitze or (?) Pinniser Schroffen. We attempted the ascent early in June from Gschnitz by an extraordinary snowy gully or ravine in the N. face, but having attained a great height, failed to reach the summit, largely owing to inexperience of steep snow and professional want of enterprise.—E. L. S.

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conspicuous from Innsbruck—(8919 ft.) in the north to the Pinnisjoch.

The only climbs I made in this group were the traverse of the Peilspitze (7813 ft.), a sharp spur off the main chain, and the Kesselspitze (8962 ft.), the second highest point.

These Alps generally form an excellent and safe playground for guideless climbing—the ordinary routes up the peaks, except in the case of the Pflerscher Tribulaun, present no undue difficulties to well-equipped and experienced climbers.

It is a distinct advantage to become a member of the German and Austrian Alpine Club (D. & Œ.A.V.); not only is there a considerable reduction in fares on some of the mountain railways, but the cost of accommodation in the huts is half the charge to non-members. In the huts on the Italian side, there is an exchange of amenities between the C.A.I. and members of the Swiss or French clubs, but not in the others. The cost of provisions is the same for everyone. The general charge for members is Sch. 3 per night for a bed in Austria, and L. 7 in Italy; half-price for mattresses, and double these charges for non-members.

The huts are open from the beginning or middle of June (according to season) till the end of September, and are 'bewirthschaftet' and provisioned. When they are closed, the keys can be obtained at one of the local centres, and a store of wood is provided which has to be paid for, as in the Swiss huts.

In the height of the season, from about middle July to end of August, the more favoured huts are unpleasantly overcrowded, and seem to be much used by whole German families, including wives and even young children, who spend a pleasant and cheap holiday in going from hut to hut without any real climbing at all. The end of June or early July and September would be the pleasantest time to avoid crowds, both in the huts and on the mountains.

I read a short time back in a German paper of an amusing situation which arose in the case of the Landshuter hut, a hut about 9000 ft. high above the Brenner Pass at the foot of the Kraxentrager, and through the middle of which the Austro-Italian frontier now passes. The Italians got the better portion of the hut, but the water supply is on the Austrian side; in exchange for a supply of water the Austrians bargained that climbers might pass across Italian territory to two passes leading to the Zillerthal Alps. This was granted, but an Italian gendarme or frontier guard has to conduct each

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party, a payment being of course demanded and which serves to augment the somewhat meagre salary earned by these officials! The same paper stated that about 5000 Italian gendarmes and customs officials line the frontier, while the Austrians altogether have only three custom-house officers and two gendarmes stationed on the Brenner Pass; notwithstanding this far more smuggling takes place from Austria into Italy than *vice versa*.

It has been said that since the Italians took over the Alpine huts in S. Tyrol, they are not looked after nearly as well as heretofore.[6] I cannot speak from much experience, but last year I was at the Schlernhaus on the Schlern and the Vajolet hut in the Rosengarten group, where I had stayed before the war; I can only say that I found them well run, clean and comfortable, and the same applies to the Rifugio Cima Libera, where we spent a night this summer.

I was much struck by the very elaborate system of marked and made paths and tracks, not only between the huts but up the principal peaks—in many cases even staircases made with large blocks of stone—and the more exposed places protected by iron ropes, rings and stanchions. It must be an item of considerable expense to the D. & Œ.A.V., but their membership is large, and it is an example of the thoroughness and method for which the Germans are noted.

As regards the flora of this district, although I do not think there is so much variety of species in N. Tyrol as in the Dolomites, those that are found here grow profusely. When I arrived in the middle of June the meadows were sheets of purple and blue with the dusky geranium (*Geranium Phœum*) and *Campanula Patula*; at the end of June or early July, besides the usual gentians, anemones, etc., the lower slopes are carpeted with *Dryas octopetala, Daphne striata, Geum montanum, Primula auricula, Ranunculus alpestris, Loiseleuria procumbens, Linaria petræa*, etc. At the Hildesheimer hut on July 17 I came across a garden of *Primula glutinosa*, interspersed with *Gentiana brachyphylla* and *Ranunculus glacialis*. On the high peaks I was fortunate to come across the rare and local *Gentiana nana, Valeriana supina, Campanula Morettiana, Primula minima, Androsace Wulfenia*, and *Saxifraga Seguieri*.

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[6] In the Brenta and Presanella-Adamello groups *secondary* paths are certainly neglected; the huts are, however, excellent in the first-mentioned group, although mostly in (war) ruins in the latter, 1927.—*Editor*.

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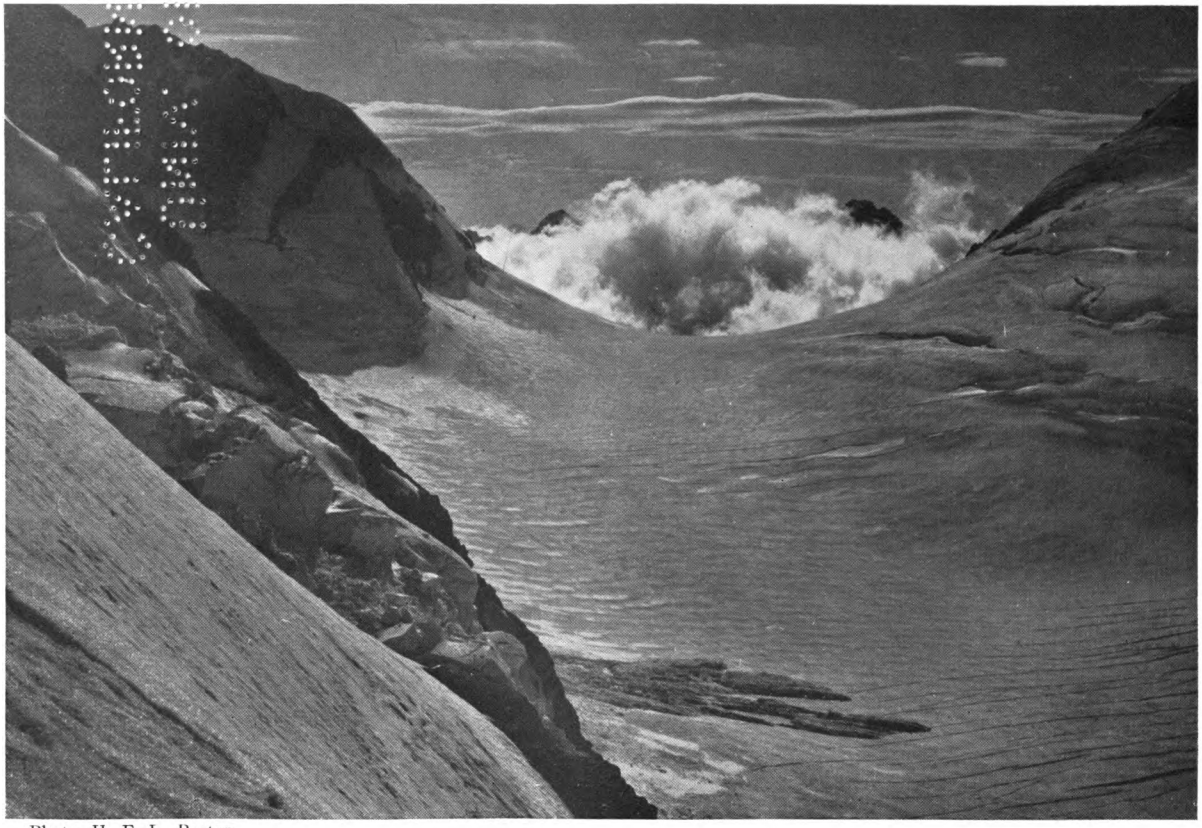

Photo, H. E. L. Porter.

First Sign of Nor'wester in the LENDENFELD Saddle.

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An excellent and complete pocket guide for these Alps is Vol. IV. of a series called 'Wagner's Alpine *Spezialführer*,' and entitled 'Die Stubaier Alpen' by Dr. Siegfried Hohenleitner, published by the Wagner'sche Universitäts Buchhandlung, Museumstrasse 4, Innsbruck; it is furnished with good contoured maps to a scale of 1/50,000. The D. & Œ.A.V. also publish good maps to the same scale, contoured at 50 metre intervals.

In conclusion, I hope these notes may prove of some use to any climbers wishing to become acquainted with an interesting and beautiful district, inhabited by a simple and delightful race, and where one is received more as a visitor and guest than as an ordinary tourist. I hope to go there again another year.

The Southern Alps Revisited.

By H. E. L. PORTER.

MY fourth season in the Southern Alps was not favoured by the good fortune which had befriended me on former occasions. My programme was limited to six major expeditions and such other tempting trifles as might present themselves in the intervals almost certain to occur between bouts of high endeavour. This time I had no Marcel Kurz always with me and ready to start for any climb at any moment, but had to rely on the company of various amateurs and guides, and fit them in according to the holidays of the former and the previous engagements of the latter, an arrangement bound to lead even in a good season to a waste of opportunity, which, if one's luck is out, may prove little less than heartbreaking. As it happened, the season 1928–29 was incredibly bad. In all I spent fifty days at the Hermitage in three separate visits. During the first there was one fine day, on which I achieved one of my objectives, the Minarets. During the second, a period of twenty-two days, the allotment was one fine day per week, each of which we spent in toiling up the Hooker valley to the bivouac on the Pudding Rock, only to be driven down on each occasion at dawn the following day, before the obviously impending nor'-wester could develop sufficient force to render descent hazardous or even keep the four of us prisoners in my frail tent, holding two at ease, three at a pinch, and four at a stretch. The party then consisted of Messrs. Chambers

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and Latham, my wife and myself, and our object was to climb La Pérouse (10,101 ft.), the fine mountain, only three times ascended, which continues the main divide W.S.W. from Harper's Saddle, the route lying along this W.S.W. ridge over the subsidiary points, Mt. Low and Mt. Jellicoe. According to the best amateur practice, we prospected a route through the broken ice after establishing camp, and this slight advance up the glacier was the nearest we got to La Pérouse. On the third occasion the party had changed: my wife and I had secured the services of Vic Williams for an attempt to traverse the three peaks of Mt. Cook, an expedition long planned and eagerly awaited: it was doomed to failure almost from the moment we reached the bivouac, the wind having already reached gale force and rapidly developing into a hurricane, in which we could hardly hear each other speak.

These fine days were brief intervals separating prolonged storms, one of which was the worst recorded for many years. The crisis of the storm only lasted thirty-six hours, but in that time more than 12 inches of rain fell. For the last two years the Government had been patiently constructing a motor-road from the Hooker bridge to the Ball hut; from the bridge this road ran across the Tasman flats, then along the hillside, where the Tasman river comes sweeping in along its base, over the Blue Lake stream by a sturdy little wooden bridge, and finally up the long gut between the lowest spurs of the Mt. Cook range and the huge lateral moraine of the Tasman Glacier. By the end of 1928 the road had reached the head of a great shingle-flat only three miles from the hut; there was a regular motor service twice a day, so that the hut was within two hours' range of the hotel—one hour on wheels and one on foot—a delightful improvement on the old dull four and a half hours' walk. Nor could the most cantankerous reactionary justly stigmatize the innovation as a pollution of natural beauty. The road blends with its surroundings and can never be a through route to anywhere, and consequently entails no parasitic growth of garages and petrol-pumps, hotels and charabancs, and no litter of picnic effluvia, such as would defile the wayside were Styhead or Hardknott to be scarred with a motor-road.

At the time of the deluge we were in the Ball hut. Proceeding when it was over to the Malte Brun hut, we climbed Aiguille Rouge on a poor day, and as it still threatened retreated the following day, deluding ourselves with the comforting hope that we could easily catch the morning car. But there was no morning car, and we had to walk all the way. The storm

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had wreaked its worst fury on the works of man, and the new road at its upper end was a succession of deep holes excavated by a raging torrent. Farther down the Tasman river had hurled itself against the hillside, even as Father Tiber crested his waves to throw down the temple of Vesta and the monuments of kings. Three hundred yards of the highway, constructed with so much toil, had vanished as if it had never been, and for many days traffic went through the 'Lawyers,' 'Spaniards,' and other barbed horrors of the N.Z. scrub, to drop back on to the road beyond the spot where its broken end yawned abruptly over the swirling flood. The Hermitage itself was isolated for a time from the coast, one important bridge on the road to Pukaki having had both its approaches washed away and the spaces between its piers filled with huge boulders to the level of its floor.

We had one little compensation for our enforced walk on this occasion in the sight, at very close quarters, of a chamois buck with his harem and numerous progeny. The family slowly retreated uphill as we swung along, but the old buck, with the courage engendered by rigid protection and the consequent contempt for slow-footed bipeds, pranced ludicrously among the scrub in between, his silly old head peering first out of one bush, then out of another, watching us in case we were not so harmless as we looked. Chamois were first imported into N.Z. in 1907. In exchange for a number of specimens of the unique fauna of N.Z., wekas, kiwis, keas, and tuatara lizards, the Emperor Franz Josef ordered a huge drive of chamois in his preserves. Hundreds were rounded up, but a large number, to the sorrow and indignation of the keepers, who were powerless to prevent it, preferred death to captivity and were dashed to pieces. Of those captured six does and two bucks after an adventurous voyage, during which their jaded appetites were tempted with a wonderful assortment of vegetable food, were finally released at the Hermitage. By 1914 it was thought advisable to refresh the stock with new blood; this time some animals born in captivity were sent: one buck and one doe survived to be released at the Hooker bridge in May 1914. The doe vanished at once, and was doubtless a welcome addition to the seraglio of the sultan-chamois, but the male intruder was rejected with contumely. Morose and disconsolate at the loss of his own kind, he returned to human society and, as generally happens in such cases, became a regular nuisance. He was for ever playing tricks, for preference on the other sex, to whom he would administer butts from the rear, playful in

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intention but painful in effect, at unguarded moments. The story of his end, as related to me by Frank Milne, though possibly apocryphal, none the less makes a good tale. One day Conrad Kain was conducting a young lady to the Müller hut with the chamois in attendance. At a point where the path is narrow and the drop below considerable, the lady knelt down to do up a bootlace; the beast saw his chance, gleefully he stalked her from behind, brought off his coup on her centre of gravity, and waited expectantly for her to roll down to the glacier far below. But she recovered her balance, and Kain, in a momentary access of anger, uplifted his ice-axe and drove the pick into a vital part of the unchivalrous animal. On his return he skinned it, took it to the hotel, and left it hanging out to dry, thinking it would look well stuffed. When he came back he found a dog had pulled it down and worried it, doing serious damage to its under-jaw. But Kain was a man of resource, and replaced the injured part with the corresponding portion of a recently butchered lamb. And now that chamois, happy in his death, adorns the lobby of the Hermitage. His brethren meanwhile flourish exceedingly, and, if they are not soon thinned out, will alter the face of the landscape by their consumption of the more edible bushes of the scrub.

The recurrent storms of December and January did more than prevent us climbing at the time. Nor'-west rains are warm, and their persistence washed away snow slopes and snow bridges, melting the edges of schrunds and crevasses, till they gaped asunder. By February, when the weather picked up, many mountains were cut off and would not be climbable again till late in March, when the great schrunds collapse and fill in impassable abysses. Luck, too, pitted herself against us in this month, so that in all I have only three ascents of any interest to chronicle. This is a pitiful result for seven weeks' endeavour, especially considering the generous and willing assistance towards the furtherance of my plans given by Mr. Wigley and his staff of the Mt. Cook Motor Co. and by everyone at the Hermitage, from the manager downwards.

The Minarets [1] (10,058 ft. and 10,022 ft.) are two points on the divide directly opposite the Malte Brun hut and about four miles S. of Elie de Beaumont. The southerly continuation of the ridge runs over De La Bêche and separates the Rudolf Glacier from the Tasman till they meet at De La Bêche corner. The watershed itself follows the rocky W. ridge of De La Bêche

[1] *A.J.* **40**, illustrations facing 112, 113.

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to Graham's Saddle, thence gradually veering southwards over several minor points to Douglas Peak, Haidinger, and Haast. In all the miles between Elie de Beaumont and Haast, it is a remarkable fact that the eastern aspect cannot show one single unmistakable ridge from glacier to summit. The watershed runs at a high level, never descending below 7000 ft., and the whole eastern face is a cascade of ice divided into sections by minor, discontinuous ribs. So far this fortress of ice has only been breached in seven places, the routes leading respectively to Pioneer Pass, the N. peak of Haidinger and Conway, Graham's Saddle, the Minarets, the Coronet, Green, and Elie de Beaumont. The route up the Minarets from the Tasman side is typical of all this country. It varies within narrow limits according to the state of the crevasses, but leads always up 5000 ft. of broken snow slopes at an average inclination of about 35°. It is an ideal expedition for crampons after a cold night, though descent by the same route must be always laborious and rather dangerous, since it faces the morning sun. Without crampons the ascent used to take from five to six hours. This year, with excellent snow and crevasses in their infancy early in December, we reached the first and highest summit in the record time of 3 hrs. 55 mins. I had with me Arne Larsen, a merry young Norwegian, who had come to the Hermitage as a guide after an adventurous career in the States, including an episode in the Florida land-boom, where he had earned high wages as an internal decorator: these he invested in real estate, and was getting quite wealthy on paper when the bubble burst and his land became a liability instead of an asset. The wages, however, continued, and he now put them into clothes and boots and personal wear. Then came the great flood and swept his new investments out to sea, and he emerged, still quite cheerful, with the clothes he stood up in. With us, on a separate rope, came a party from Waiho, Mr. James and the guide Frank Alack, who had already made five attempts on the mountain and was bubbling over with pleasure at securing at last the right day and the right companion to ensure victory. In the irritation of frustrated hope he had made a humorous vow to stand on his head on the summit when he did succeed in reaching it. A vow is still a vow, even in this century of disillusion. His companions were sympathetic to the spirit of it, and assisted its fulfilment by holding his legs aloft! From the Minarets we went on to De La Bêche, and thence completed the traverse by descending from the next col to the Rudolf Glacier, the parties diverging near Graham's Saddle—

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one westward to the Almer bivouac, the other southward to the Ball hut. How strange a feeling of isolation grips the heart after such a parting high up on a mountain with no other human being within miles! So speedy were our homeward movements that we easily caught the afternoon car and reached the Hermitage before 5 P.M., so that we traversed our mountain and covered the 24 miles separating the hut from the hotel all in 15 hours.

January, as I have already said, was a month of disastrous failure and hope cruelly deferred, not only for my party but also for almost all the mountaineers on the spot. Most of them were concentrating their energies on the ascent of Mt. Cook: a notable exception was Miss Gardiner, daughter of our former Vice-President, who wisely determined to gain experience and bodily training on minor ascents first, and had scaled several peaks with Vic Williams, before she went on to make with him and Mahan the first ascent of Mt. Cook for the season on January 6, in 15¾ hours, only a few minutes more than the fastest previous ascent by a lady on the Linda route, that of Mrs. Algie in 1924. There were three other ascents of Mt. Cook in January, all by the Linda, the first of which was a heroic performance, even if it presents features which do not commend themselves as sound practice. For many days the Haast hut had ten inhabitants, the limit of its capacity: it rained and blew most of the time, keeping them more or less prisoners indoors; in such conditions appetites grow with feeding, and foodstocks had to be replenished more than once. In this connexion the feat of Charlie Hilgendorf, a student porter, is worthy of record. He left the hut early, walked all the way to the hotel, which takes about 7 hours, took back with him a swag containing over 50 lb. of provisions, and regained the hut about 1 A.M., having ascended the 3000 ft. of the Haast ridge in the dark: of such stuff is the youth of N.Z. made. The mattresses in the hut were rotten with age, and the kapok with which they are stuffed exuded at every rent and invaded everything: it littered the floor and clung to clothes, it got into the food and penetrated breathing-tubes in the form of impalpable dust. It is hard to imagine conditions more likely to undermine tempers and destroy climbing form. Yet of the ten six remained (some of them after twelve days in the hut) ready to tackle the mountain, when on January 27 there seemed an exiguous chance of success. The doughty six were Miss Byles and Alf Brustad, chief guide; Mr. Samuel Turner and his son Cyril, and Messrs. Syme and Mace of Wellington,

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an amateur pair, whose keenness in the face of discouragement is beyond praise. They formed three parties of two, climbing on separate ropes, but with an agreement to stay together all day. There had been a heavy snow-storm on the 24th, followed by two dull days without any thawing power: consequently the Linda was a purgatory of soft snow to the knees and sometimes to the waist, up which the men took it in turn to plough a way. By the time they reached the summit rocks the wind was strong and steadily rising, reaching dangerous force as they mounted the ice-cap. In a 'death-or-glory' spirit they persevered and at 3 P.M., 13 hours after their start, they stood on the summit. Darkness overtook them on the Linda, and they had to feel their way through the worst of it above the Silberhorn corner, with the added handicap of lanterns which would not keep alight. Eventually they regained the hut at 3 A.M., after 25 hours out. It was a great feat of endurance for a lady, yet Miss Byles a day or two later was attacking other Alpine giants with undiminished vigour. Mr. S. Turner had the satisfaction of making his fifth ascent of Mt. Cook in his sixtieth year, and his son that of success at the first attempt, while no one could help rejoicing with those modest, self-trained mountaineers, Messrs. Syme and Mace, in their well-earned victory. On January 30, in rather similar conditions but without the same violence of wind, Brustad and Larsen conducted Miss Edgar Jones to the top and back in 20 hours, and the next day Williams and Hilgendorf took up Mr. Jackson of Wellington, their time of 14½ hours being the best ever recorded on the Linda route. Ascents of Mt. Cook now number thirty-five: of these twenty have been made by the Linda route, which was only completed as recently as 1912, on the occasion of the tenth ascent; sixty-seven climbers have stood on the top, of whom ten have been ladies.

It is perhaps worthy of mention that, since the very successful season rewarding Kurz and myself in 1927, no ascent of Mt. Cook has been attempted without crampons, and it is safe to assert that they have at last come into a kingdom peculiarly their own. It is surprising how quickly the young mountaineer becomes proficient in their use, just as children nowadays seem to ride a bicycle by inherited instinct, whereas a generation ago we had to learn the art not without many a sideslip and tumble. Conversely, I noted a tendency in N.Z. to believe that crampons are a kind of magic footgear, conferring a mysterious power on the veriest novice to waft himself aloft, however ignorant and untrained, to Alpine heights, which

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should only be attained after due apprenticeship. No one is more conscious of this unfortunate state of affairs than the guides, on whom devolves either the dangerous duty of conducting such parties, or the unpleasant alternative of giving offence by refusing to do so. Mt. Cook is and must *always* be a dangerous mountain, and visitors to the Hermitage ought not to be lightly encouraged by the directorate to undertake the ascent regardless of their Alpine experience and physical ability. The Linda resembles a treacherous and malignant monster: some days it sleeps; on others it belches forth its very entrails in its wrath, as on that day in 1914 when it overwhelmed Mr. S. L. King's party. The more one sees of it the stronger grows the conviction that it is a place to avoid unless the conditions are absolutely perfect, and even then a prudent mountaineer cannot help being oppressed by the consciousness of the incalculable forces arrayed against him.

Towards the end of January my wife and I gave up the struggle in dudgeon, but ten days later I returned alone to join Miss Gardiner and Vic Williams. For the next fortnight the nor'-wester, despite occasional threats, held its hand, yet for some obscure reason the old snow was almost everywhere in bad condition. Early in the spring a layer of minute dust, said to have been wafted over in the course of a terrific dust-storm in the Australian desert, had been deposited over a wide belt of the Southern Alps, and had persisted on most snow slopes right into the autumn, giving a peculiar rusty-red tinge to the scenery. It was not till one started melting snow for water and got a liquid like pea-soup from the process that one realized the extent of the deposit. I wonder if there is any possible connexion of cause and effect between this dust and the surprising instability of the snow.

For the opening move of the new campaign I suggested making an attempt on Mt. Teichelmann (10,400 ft.), a small knob on the divide half a mile S.W. of the Silberhorn: its chief importance is that it forms one of the pivots where the divide changes direction abruptly back to the S., the prolongation of the ridge from the Silberhorn constituting a rocky barrier between the two western glaciers, Balfour and La Pérouse. It had the additional attraction of being unclimbed; in fact, I have never heard of anyone even meditating an assault on it. Some years ago I accepted without verification the statement that Grey Peak at the time we climbed it (*cf.* 'A.J.' **36**, 296) was the highest virgin point in N.Z. There were then at least three higher separate peaks within five miles, all over 10,000 ft.,

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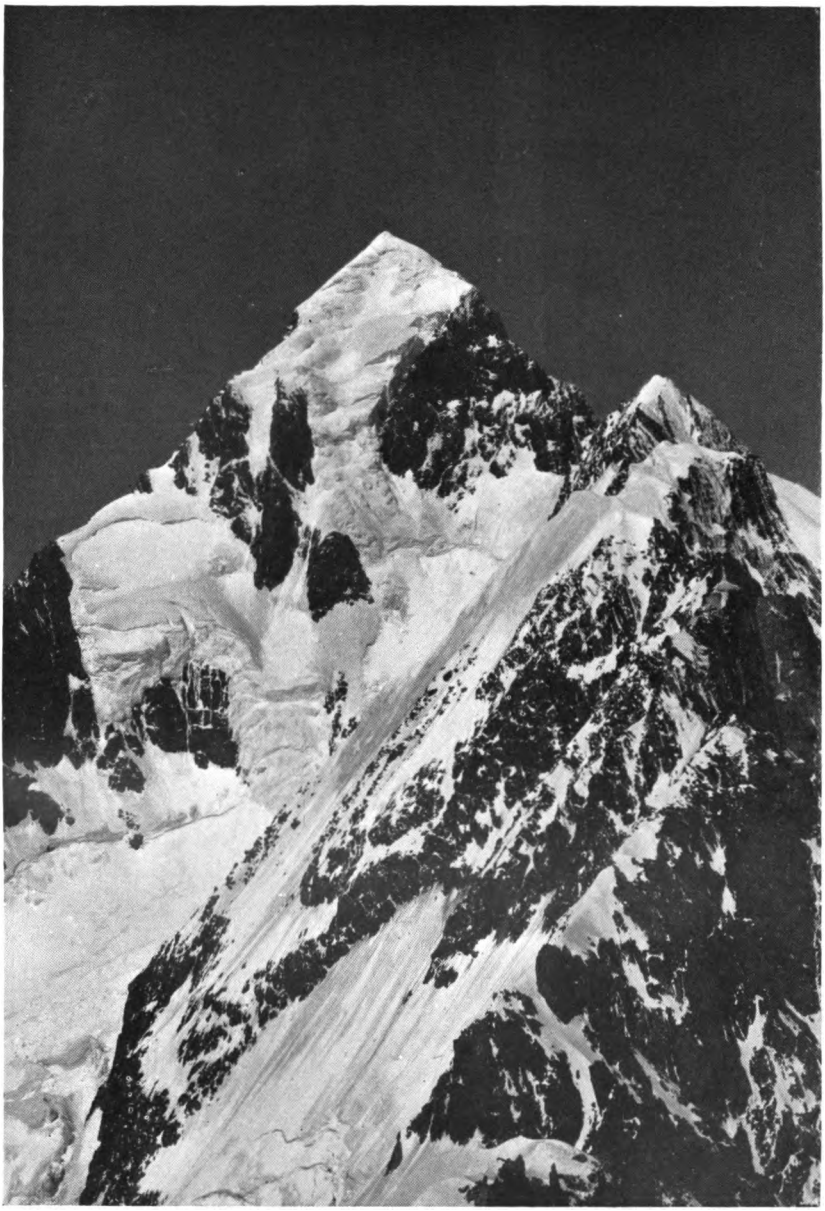

Photo, H. E. L. Porter.

N. face of COOK from Summit of TEICHELMANN.

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Photo, H. E. L. Porter.

E. ridge of SILBERHORN. Nearing the Top.

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of which Mt. Teichelmann is easily the highest. It was named after our fellow-member, Dr. Teichelmann, in recognition of his sterling pioneer work extending over many years, during which he shared in many first ascents of Ten-Thousanders from the little-known western side. The peak might perhaps be approached by the Linda Glacier and Clark's Saddle, but to my mind the most promising plan was to attack it over the Silberhorn. The others agreed to this, and on February 9 we established ourselves at the Haast hut, now empty of mankind but still full of kapok, a nuisance which we lessened by bringing up some new mattress-covers and bottling up as much of the loose stuffing as we could secure. Next day, leaving the hut at 3.15, we mounted the Silberhorn by the route described in my last article ('A.J.' **39**, 268), and after a most enjoyable ascent stood on the summit of the Silberhorn at 9.20. The conditions so far had been fair, the surface-snow being well frozen and deep enough in most places to take the whole length of our spikes, while the schrunds had been surprisingly amenable. The wind was rather strong at times for such an exposed ridge, but seemed to be on the wane. The ensuing half-mile to Teichelmann was a joyous pilgrimage in glorious surroundings along a fairly broad and level snow arête, ending with a change of motion over two rocky teeth, for which crampons had to be discarded. A few steps more and we were reaching out our hands to pluck the plum which had been left dangling for so many years. The beauty of such fruit is that it never grows overripe, but waxes ever sweeter the longer it remains unpicked. From 11.10 to 11.30 we revelled in an ecstasy of appreciation, then slowly retraced our steps, regaining the Silberhorn at 1.0. As soon as we launched ourselves on the descent of the steep ridge we realized that deterioration was rapidly setting in. Though there was no sharp line of cleavage between ice and snow, the surface was inclined to slide an inch or two beneath the foot and also to clog our crampons. All went well till we came to a point some 600 ft. down, where to avoid a great break on the crest of the ridge a short deviation had to be made on to the face. I had cut down a little ice-wall, and inserted one foot into the snow below it, in which Vic had tramped steps in the morning. The steps were deep and seemed good to the pressure of my feet and the probing of my axe. But the instant I placed my other foot in the next step the whole slope peeled off without the least warning; the others had no adequate holding-stance, and we all went in a flash down the slope for 60 ft. and clean over a 30-ft. ice-cliff, to sink into the

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TEICHELMANN, SILBERHORN, TASMAN AND LENDENFELD FROM THE ANZACS.

Photo, Miss D. Theomin.]

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bank of loose snow built up on a providential little platform (almost the only one on the mountain) by the very snow which had been responsible for the whole incident. Miss Gardiner and I came to rest feet foremost, and escaped without a scratch or bruise, but Vic, in his effort to hold, had had his balance destroyed and, being unable to recover it in the few seconds occupied by our slide, fell on his shoulder, straining his neck-muscles and injuring some of the delicate tissues over his heart, which rendered his breathing increasingly difficult during the subsequent descent. We picked ourselves up and got going again with little delay. Vic, despite his pain, kept moving deliberately downhill in the most heroic fashion, though for 2000 ft. every step required concentration of will power, and not seldom the ice-axe had to be plied vigorously where the snow had turned treacherous. It was not till we were out of all serious danger on the broad slopes above the Grand Plateau that he showed any symptoms of collapse. Reinvigorated then by a sip of brandy and a mouthful of food he soon resumed the struggle, and we regained the hut and safety, not without intense relief, at 8.15, just as the last light of day was fading out. Next day Miss Gardiner went into the Hermitage to get help and comforts sent up, and to seek medical advice as to the extent of the injury, of which we were still uncertain, and the best treatment for it. At an early hour on the 12th Jack Crombie and Hilgendorf of the Hermitage staff appeared, as if by magic, with all manner of delicacies for our wounded man. By the 14th, after three days of rest and gentle massage, he had recovered sufficiently to move down the ridge under his own steam and reach the Ball hut, coming on to the hotel the following day.

While he was convalescing, Miss Gardiner and I, with Jack Crombie, made the third ascent of Mt. Bannie (*cf.* ' A.J.' **38**, 22). The untoward incident on this occasion was the heeling over of a large block, loosely poised on its pedestal, at the merest touch of the hand ; luckily a shoulder could be applied to it before it gathered momentum, and the only damage was the loss of a piece of skin.

By the 19th, Vic felt fit enough to enter the lists again, and his speedy recovery enabled us to view our new ascent in its proper perspective, and to decide among ourselves that there was nothing in the whole range that could have better compensated for the misadventure than the first conquest of Teichelmann. We now migrated to the Malte Brun hut, and on the 21st attacked Elie de Beaumont, marking down its

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neighbour, Mt. Green, for our next climb. This was a tactical error: we should have tackled them in the reverse order, for Elie is at its very worst in February, and from Green we would have been able to see that its summit was completely cut off by a huge encircling moat. It was a mistake proving expensive in two ways: in the first place we wasted a really good day, finding it impossible to get through even the lower icefall, where tier upon tier of vast schrunds with overhanging lips were tottering towards collapse; secondly, while endeavouring to circumvent one of them under the frowning ice-crowned wall of Mt. Walter, suddenly we heard an ominous crack, and, looking up, saw a large block of ice silently detach itself 200 ft. above and fall remorselessly towards us. Owing to the configuration of the ground we had our backs to it, and watched it with fascinated eyes directed over our shoulders. Vic was more or less sheltered behind a projecting fin, but Miss Gardiner and I were defenceless if it took our direction. Halfway down it struck and split, and some large fragments came hurtling straight at us. We could do nothing but shield our heads and brace ourselves to receive the shock. One lump caught Miss Gardiner on her rucksack and winded without seriously hurting her; another hit me fair and square on the back of the calf, tearing my puttees and breeches but not penetrating to the skin beneath. The risk we had run our heads into was only such as one incurs automatically every time one ascends an icefall; neither before nor after, as long as we were within sight, did any other block fall at this point, and I can only ascribe the accident to pure bad luck. We evacuated the untenable position in haste, and half-heartedly explored the centre of the fall for an alternative route. Luckily, as we realized two days later, we failed completely. I had already been repulsed near the summit in a previous year, and to have failed again high up after refusing to be deterred by the frowns of fate lower down would have indeed been bitter. My leg was very badly bruised and quickly stiffened up, so that our descent was perforce very leisurely. Next day was the one perfect day of the whole season. I was thirsting to revenge the two defeats I had suffered in 1925 in trying to make the first ascent of Glacier Peak and Douglas Peak from the E. Had I been fit, Vic and I could at least have made a bold bid for it on such a day. I can only console myself with the reflection that here, too, our grasp might have exceeded our reach, leaving the heaven of accomplishment for yet another season.

The 23rd dawned fair again. Lame though I still was, I was

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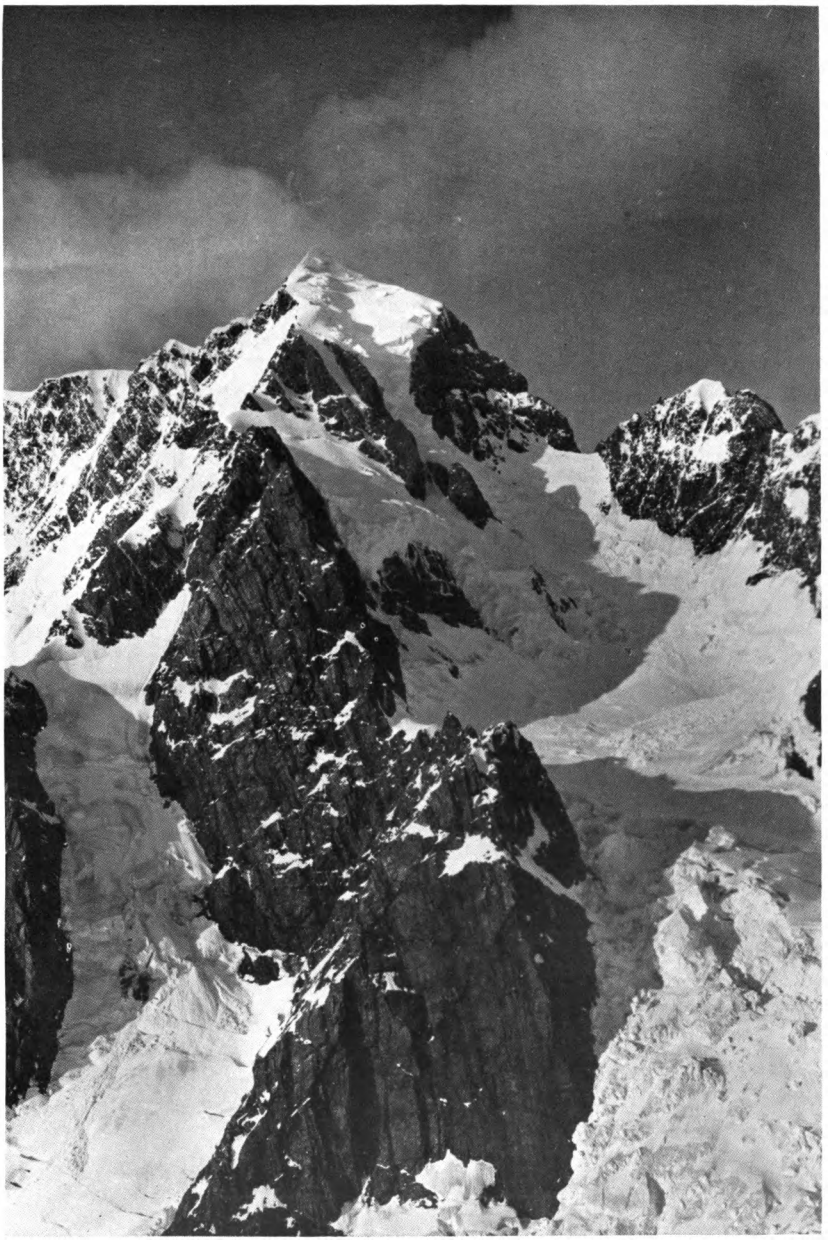

Photo, H. E. L. Porter.

Mt. COOK from 10,000 ft. up on SILBERHORN showing LINDA Glacier and DAMPIER.

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Photo, H. E. L. Porter.

"EN FLAGRANT DÉLIT."
Kea stealing wire.

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confident that sufficient exercise would tend to restore elasticity to my bruised muscles, and in any case could do no harm. Accordingly at 4.10 we set out for Mt. Green (9305 ft.). Having descended the 400 ft. of pathless tussock and loose moraine to the glacier, I discovered with a pang of dismay that I had left my crampons in the hut. This was the only misadventure of the day, and was cheaply expiated by the sacrifice of half an hour, the time it took the kindly Vic to retrieve my weapons. Mts. Green and Walter viewed from the hut looked like lower peaks of Elie de Beaumont, rising as steep conical points on its southern flank. At closer quarters they assume more independent proportions as separate peaks on the divide some half-mile distant from each other. On the few occasions on which they have been climbed, they have generally both been included in the day's programme. We had hoped to do the same, but found the conditions so difficult that we had to confine our activities to Green. Leaving the Tasman Glacier below the unnamed col to the S. of Green, we ascended snow slopes which proved more and more unstable the higher we mounted. On the way up a priceless opportunity was presented to my camera. I have often harped with bitter words upon the familiar cloud in Lendenfeld Saddle, 'no bigger than a man's hand,' the sinister omen that a nor'-wester is due within twenty-four hours. This cloud now made a dramatic appearance: one moment the saddle was clear, the next a billow of fleecy vapour, having completed its stealthy march up the Wataroa valley under cover of the northern face of Elie, peered over the rim, voicing inaudibly the injunction, 'To-morrow ye shall not climb!' My lens instantly secured a record of its smiling infamy, which the wizardry of Mr. Beken of Christchurch, N.Z., has transformed into a thing of beauty. Here I feel it my duty to pay tribute to his astonishing genius, which continues to amaze and delight the fortunate few for whom he still consents to put forth his skill, despite his seventy years and more. To return to Mt. Green: after ascending many hundreds of feet with the deliberation which the state of the snow and our past experiences enjoined, we emerged by a sharp snow-crest on the plateau of névé from which the final peak of Green rises in a steep spring of 500 ft. The usual route is straight up the face when there is snow on it. At this time of year it was a sheet of bare and horrible ice. We skirted its base and worked up to the divide at the foot of the N. ridge, now mostly rock, and rotten at that. By it we achieved our peak at 11.45. What interested me most in the

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view was the detail it presented of the approaches to that great unsolved problem, the ascent of Elie de Beaumont from the W. After careful study I came to the conclusion that it is an even more formidable undertaking than I had imagined.

Here, since our subsequent doings were of interest only to ourselves, I will leave the party seated on the top of Green, or, to be quite accurate, on the nearest comfortable rock adjacent to the summit, one of them at least lost for a time in pleasant dreams of a happy and not too far distant future when a few more gems may be inserted in the still vacant niches of his New Zealand crown.

The First Ascents of the Hohberghorn and Stecknadelhorn from the Ried Glacier.

By O. K. WILLIAMSON.

(Read before the Alpine Club, May 6, 1919.)

THERE is a French proverb which runs: 'On revient toujours à ses premiers amours,' perhaps an explanation of another paper on the Saasgrat. The plain unvarnished truth is that I love the Saasgrat peaks whether in fair weather or in foul: when having shed their snowy winter mantle they rise in majestic grace with sharp yet shapely granite ridges, flanked by couloirs of snow and ice gleaming in the summer sun and converging to the clear-cut summit cone; or when a gale chases the clouds in fast fury across their rugged pinnacles and soft rolling snowfields, obscuring here, revealing there, and providing marvellous glimpses of undreamt-of grandeur and of ever-changing beauty.

The present paper is, I think, justified by the fact that the Journal has never contained one on the Stecknadelhorn, and only one, that by August Lorria, in Vol. **13**, 521–9, on an ascent of the Hohberghorn.[1] The story of the two climbs forming the basis of this paper, old friends with new faces, has not yet appeared except in the form of bare notes. Owing to their shortness these expeditions cannot rank as great climbs, indeed the glaciers at the points at which these peaks arise

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[1] True in 1919, but see, however, Mr. Meade's note, *A.J.* **41**, 212–3, as well as M. Blanchet's note, *A.J.* **40**, 395.—*Editor.*

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Photo, S. F. Staffurth.

Great Gendarme on E. Arête of LENZSPITZE.

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from them are about 12,000 ft. above sea-level. Both the Hohberghorn and Stecknadelhorn suffer as regards height from their proximity to their splendid neighbours, especially the Dom and Täschhorn; but it must be remembered that each of them is actually higher than the Zinal-Rothhorn and the Dent d'Hérens, and that they overtop all the summits of the Bernese Alps except the Finsteraarhorn; for the Stecknadelhorn reaches a height of *ca.* 13,870 ft. (4235 m.) and the Hohberghorn one of 13,861 ft. (4226 m.).

It is, or should be, unnecessary to remind the habitué of Zermatt that the Stecknadelhorn and Hohberghorn are the culminating peaks of the *Nadelgrat*, the lofty ridge which extends N.W. from the Nadelhorn, and separates the Hohberg from the Ried Glacier.

Both peaks may be considered, broadly speaking, as having three faces, separated from one another by corresponding ridges. In the case of the Stecknadelhorn the well-defined N.W. and S.E. ridges form part of the crest of the *Nadelgrat*, and bound the rocky S.W. face, rising from the névé of the Hohberg Glacier, whilst the N.E. ridge separates the snowy N. and E. faces, which fall in slopes of uncompromising steepness to the great snowy basin whence issues the Ried Glacier. As regards the Hohberghorn the S.E. and N. ridges form a part of the *Nadelgrat* and bound on each side the snowy N.E. face, which is continuous with the N. face of the Stecknadelhorn, whilst the S.W. arête divides the S. from the W. face. It will be seen further that both peaks are on their N.E. and N. aspects snowy, whilst the flanks facing towards the S.W. and S. are in the main of rock.

I must ask the indulgence of my fellow-members for a brief historical résumé of the climbs on the two peaks.

The first ascent of the Hohberghorn, being also the first time any peak of the *Nadelgrat* was climbed, was in August 1869, by Mr. R. B. Heathcote, accompanied by the guides F. R. Biner, Peter Perren, and Peter Taugwalder, jun., by way of the S.E. arête. By this route one reaches the foot of the broad couloir which descends from the depression between the Stecknadelhorn and Hohberghorn, and by this or by the slope on its true right that depression is reached, and the S.E. ridge of the mountain followed to the top. A variation of this route was made on October 9, 1890, by Professor W. Gröbli with Aloïs Pollinger, who ascended from the glacier crossing the bergschrund to the W. of the couloir, in a fairly straight line to the summit. On August 30, 1881, Dr. Emil

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Burckhardt and Professor Karl Schulz [2] with Alexander Burgener and Peter Schlegel first descended the upper part of the S.W. ridge of the mountain, leaving this to complete the descent by the W. flank over rotten rocks and a couloir to the Hohberg Glacier; whilst on July 30, 1886, Herren August Lorria and O. Eckenstein, without guides, ascended this ridge throughout its whole length. They found it very difficult, and occupied 5½ hrs. on it. On the way down, owing to Eckenstein's lack of faith in Lorria's assurance that the lower icefall of the Hohberg glacier was impassable, the latter, in a temper, went with him straight down towards it. Finding then that Lorria's statement was correct, they had to re-ascend, and Lorria 'got some of his own back' by making Eckenstein lead up in the soft snow. As a result of this incident the two were forced to pass the night on an evil ledge, close to the Festijoch, in very severe cold. Finally, on August 8, 1901, Herr Walther Flender with Heinrich and Salomon Burgener descended the mountain by its N. arête.

The Stecknadelhorn, now named on the Siegfried map, arises at the point where the *Nadelgrat* changes its direction from N.W. to a more W. direction. The first ascent was made on August 8, 1887, by Herr O. Eckenstein, accompanied by Mathias Zurbrücken, by the N.W. arête, reached by way of the couloir between the Hohberghorn and Stecknadelhorn. The S.E. arête was first descended on the same day by the same party *en route* for the Nadelhorn.

I think that the first time the idea of an ascent of the Hohberghorn by its N.E. face assumed a definite form in my mind was in the winter of 1907–8 on reading Dr. Blodig's article.[3] The only other reference to it which I have seen was in Mr. Lorria's article (*ibid*). From the col between the Hohberghorn and Stecknadelhorn he and Eckenstein examined it, and he says that 'Eckenstein hankered to descend towards the Gassenried Glacier, and the snow slope seemed practicable, at least as much of it as we could see. But after my determined declaration that I considered this route very difficult, and perhaps impossible from what I had seen of it some days before from the Gassenried Glacier, Eckenstein made up his

[2] The death of this distinguished mountaineer and former A.C. is reported in this number.

[3] D. & Œ.A.V., *Zeitschrift*, 1904, 'Zwischen der Saaser und Mattervisp.'

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mind to descend by the snow couloir to the Hohberg Glacier. . . .'

In July 1908, Daniel Maquignaz and I looked at this side of the mountain critically from the Ulrichshorn, and Daniel expressed the opinion that the climb would be practicable under favourable conditions for a party using crampons. There is little doubt that this aspect of the upper part of the *Nadelgrat* is as beautiful as the opposite or S.W. side is comparatively speaking commonplace.

Between the Hohberghorn and Stecknadelhorn on the N. side there lies a well-marked bay or inlet in the snowy cliffs. This is guarded about halfway up by a very formidable hanging glacier extending across the whole breadth of this inlet, a hanging glacier undercut, moreover, in a wonderful fashion.

In the very unsettled weather of the summer of 1909, Daniel Maquignaz, Heinrich Fux and I actually started for the climb one morning from the Schallbett Alp above St. Niklaus, but owing to the unsatisfactory snow conditions were forced to give up all idea of it before reaching the foot of the mountain. The autumn of that year I planned a week-end devoted to an attack on the peak with Joseph Pollinger, and a journey from and back to England should the weather become really settled; but the plan never materialized.

On July 28, 1910, accompanied by Mr. H. Symons and Franz Lochmatter, Jean Maître, Heinrich Fux and I trod the path from Saas Fee to the Mischabelhütte. I was glad that my friend and his guide, who had been climbing the last few days with great energy, were able to accompany us.

The following morning we started at 5.10 A.M., Symons and Franz on one rope, myself with Jean and Heinrich on another, and proceeded to the Windjoch (12,528 ft. or 3848 m.). Sir Martin Conway in a paper in the thirteenth volume of the JOURNAL, speaking of the view from a point just above where the hut stands, says: 'The snowfield of the Hochbalm Glacier is for subtlety of curvature and grace of undulating form, one of the loveliest I ever saw . . . The wall joining the Südlenzspitze to the Nadelhorn is surpassingly grand in scale and fine in structure.' I imagine that most mountaineers would agree with him. The col was reached at 6.25 A.M.; ten minutes later we proceeded to traverse the snowy basin from which springs the Ried Glacier, trending in the main in a westerly direction along the snow slopes, and keeping at much the same level. Having passed beneath a striking overhanging sérac we

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halted at 7.15 A.M. for photographic purposes, and climbed a vertical wall of snow some 10 ft. in height. We soon reached the foot of our peak at a point probably slightly below the level of the Windjoch, and immediately beneath the most westerly of the séracs of the hanging glacier in the well-marked bay to which I have already referred. Here, some yards away from the bergschrund, we halted for 17 minutes, below the snowy wall, cold gray in the morning light, and near some ice débris fallen from the séracs, to make final plans for the actual assault. The N.E. face in its S.E. portion shows the end séracs of the hanging glacier. The angle of the slope from here to a point near the top of these séracs (the highest point visible from our position) measured by clinometer was approximately 45°. At 7.52 A.M., after nothing more exciting than the fall of a few small stones which had playfully skipped down close to us in 'stealthy haste,' we started up, Franz Lochmatter leading. The bergschrund was crossed without any difficulty and we took a line leading straight up the slope. Jean considered that the face to the right of us (N.W.) would present less snow than the route which we followed, and so would be slower though somewhat safer; but any risk which we ran from falling ice was very slight under the conditions and so early in the day. The state of the snow was all that could be wished for, and Franz, equally brilliant on snow as on rocks, cut large steps with wonderful rapidity and finish. To me also it was a great pleasure on looking down to notice Jean's strong face beaming, manifestly revealing his keen enjoyment of the climb. Directly above us there loomed the great ice wall with séracs above it, and to its right one or two other blocks of ice. After a time we bore slightly to the right. We reached a point where our leader's rapid progress became suddenly greatly diminished. 'De la glace,' said Jean, and sure enough there was ice at a very slight depth beneath the snow, and where consequently it was desirable to cut steps into it: just after this we reached the level of the top of the séracs. The slope had up to this point become rather steeper. We had now been moving for exactly one hour from the foot of the slope, and were free to indulge in a halt of 13 minutes just above the level of the séracs, a further clinometer reading giving the angle to the top of the peak as 47° to 48°, but Symons and I agreed that the angle above us was distinctly less steep than that of the slope already climbed. Heinrich now took his turn of leading and again we encountered for a short distance ice beneath a thin covering of good snow. Bearing

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slightly to the left we again got on snow and in a short time reached the summit ridge of the *Nadelgrat* a few yards S.E. of the top of our peak, on to which we stepped at 9.28 A.M., 23 minutes after our last halt, or 1 hour 23 minutes actual going from the foot of the slope. The snow had been in first-rate condition all the way up, although slightly hard at one point.

The Hohberghorn is well placed for a view, the grandest objects being the neighbouring giants, the Nadelhorn, Lenzspitze, and above all the Dom. The *Nadelgrat* itself forms a most striking foreground; the Weisshorn shows to particular advantage from this direction, and of course there is a splendid panorama of the Oberland peaks. These were on this occasion partly clouded over, and some clouds lay over Italy. Forty minutes spent in lazy enjoyment and in photography passed, as the time always does pass on a summit, all too rapidly, and at 10.7 A.M. we started for the neighbouring Stecknadelhorn. We went down the (as we found it) remarkably easy snow ridge of our peak (the S.E. ridge) to the col between the Hohberghorn and Stecknadelhorn, a ridge by the way described by Dr. Blodig in his article as an 'Alpiner Eiertanz,' which implies, I take it, that the extreme care needed suggests walking on eggs. The condition of the arête on that occasion was, therefore, widely different from that in which we found it. We then proceeded along the N.W. arête of the Stecknadelhorn, my first experience of which as well as of the S.E. ridge was in the previous year, and by pleasant but easy rocks, for the most part sound, with some traverses on the S. side, reached the top at 10.49 A.M. and descended without difficulty to the col between this peak and the Nadelhorn, a col for which Dr. Blodig has suggested the name Ober Stecknadeljoch. Here we halted from 11 till about 11.30 A.M., then started down the snow slope to the N.E., a route which had not been previously followed, Jean leading. The angle soon became extremely steep, so that, adopting the method recommended by Jean, we descended backwards, the snow being excellent. This safe but somewhat slow method continued for a hundred or two hundred feet, but the angle eased off just above the bergschrund. Below this we turned to the right, traversed moderately steep slopes and got on slightly harder snow for a few yards; then, keeping the bergschrund above us, reached the N.E. ridge of the Nadelhorn and descended to the Windjoch by 12.35 P.M., whence, after 5 minutes, we proceeded to the Mischabelhütte, reached at 1.35 P.M. Clouds were blowing up whilst we rested for about

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1½ hours, and when we descended to Saas Fee, reached at about 4.25 P.M., there was some rain. The whole expedition occupied about 7¾ hours, excluding halts.

The snow had been in perfect condition throughout the day, and it is probable that the route was a safe one on the occasion of our ascent, although it would be rare to obtain such favourable conditions as those we experienced. Fux considered the N.E. face steeper than the route up the E. face of the Dom, which we had accomplished under Joseph Pollinger's leadership in 1907.

A week was spent in various minor expeditions at Saas and a return to the Bernese Oberland for the second time that summer with a view to an attack upon the Gletscherjoch. In the second half of August, I again found myself at Saas Fee, with the object of devoting the last week of an Alpine holiday to attempting the Stecknadelhorn by the N.E. arête. One night we slept at the hut, starting next morning betimes albeit the wind was howling ominously. However, when we reached a snow plateau a few hundred feet up, a furious gust of wind forced us into a crouching position on the snow, and we perforce drove in our axes to prevent our being blown bodily off the slope. After one or two further blasts it became quite obvious that so far from a new climb on the Stecknadelhorn being within the range of practical politics it would have been foolhardy even to have attempted the ordinary way up the Ulrichshorn. It was very annoying as the sky was clear. On returning to Fee a friend asked me with a certain air of surprise why we had returned. I pointed out to him a small, and to the uninitiated harmless-looking cloud-banner on the ridge above the hut, and explained what it signified. On the last day upon which it was possible for me to start, August 21, we again walked up the now very familiar path to the Mischabelhütte, the only incident of interest on the way being the necessity of crossing the stream from the Hohbalen Glacier by a single tree trunk. Our scheme was to ascend the peak by the N.E. arête and to go down to Randa. That evening there was a thunderstorm; in fact the clouds did not clear away until a few hours before the time of our start, so that next morning when we arose we found to my intense disgust that the snow round about the hut was unfrozen. If such conditions obtained on our peak it would obviously be more than rash to undertake a climb of the degree of steepness of the Stecknadelhorn's N.E. ridge; however, Jean thought that quite possibly the snow higher up would be in good order,

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and he proved to be perfectly correct. Starting at 5.14 A.M. we reached the Windjoch at 6.40, and after 5 minutes' rest turned to the left up the N.E. ridge of the Nadelhorn. After another halt of 8 minutes we left the arête at 7.16 A.M. and traversed the snow slopes to the W. We bent back towards the ridge to avoid a steep descent, descended and again turned W. We traversed beneath the bergschrund and some séracs and above a large overhanging mass of ice. Hitherto the snow had been moderately good. Between us and the N.E. arête of the Stecknadelhorn there fell away to the glacier below an exceedingly steep slope or open couloir consisting of pure ice. We cut horizontally across this slope, a distance of some 30 ft. to the rocks of the N.E. arête, starting our ascent with Heinrich leading. We began by tackling some rocks which needed care. We then reached the foot of an overhanging rock with a chimney on its left (true right). Jean was in favour of prospecting on the right-hand side of this with a view to turning it, but Heinrich pointed out that he had already examined these rocks and that the route was not the most desirable one. Accordingly we turned our attention to the chimney. The first stage, a height of perhaps 25–30 ft., was exceedingly steep, and its lower part narrow. Having accomplished this our leader climbed the wall to the left (true right) of the chimney. This, as we first learnt from much scraping of our leader's boot nails on the rock and from sundry grunts, was difficult and the holds small. As our heads rose in turn above this wall it was seen that the rock above sloped back at an easier angle for a height of about 15 ft. These rocks, although easy, craved respect on account of their looseness. The ridge above this level was of snow, fortunately in good condition. The angle then steepened, and the ridge, here flat and broad, revealed rocks jutting out of the snow, being in the form of sharp vertical edges, by holding which one had to climb, but which, owing to their not being very sound, could not have much reliance placed upon them. Above this place we encountered snow a few yards to the left of the arête (true right) inclined at an easier angle. In much of this it was necessary to take care that one cut through the 6-inch layer of snow into the ice beneath, although the condition of the snow throughout the ascent was good.

The arête was again reached; it consisted now for the most part of not difficult rocks and brought us to the summit at 9.38 A.M. after a very fine climb, in 2 hours 22 minutes from the time of leaving the Nadelhorn's N.E. arête. For some time

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past evil-looking clouds had been collecting round the Oberland summits, and the Bietschhorn and its neighbours had been silhouetted against a stormy-looking sky with ominous distinctness, but we had been so engrossed by the technicalities of the ascent that the rapid change for the worse in the weather had escaped our notice. Fine snow now began falling, and no time must be lost in eating our lunch, or was it a second breakfast? 'Where is that *Wurst*, Heinrich?' Fux professed ignorance as to the presence of any such article of diet, till Jean in a moment of inspiration suggested the word 'salami.' After the customary somewhat prolonged search in the guides' rucksack—that rucksack which holds so much and in which it is always so difficult to discover the particular article desired—the missing sausage was produced. Jean now passed some distinctly uncomplimentary remarks anent the lack of keenness displayed by the Saas guides in not having shown sufficient enterprise in past years to make the two fine routes which we had accomplished. It was more than time now to leave our summit, as thunder was rumbling ominously among the crags. We packed with all possible expedition, and started at 10.8 A.M., Heinrich leading, down the well-known N.W. arête. Snow was now falling heavily, and, owing to the fact that our axes were hissing from the electric disturbance, it was obviously desirable to leave the ridge as soon as possible. We started down some tracks on the S.W. flank observed by Heinrich. The unwelcome truth, however, was soon forced upon us that the descent of this face would involve much step-cutting in ice, so we reluctantly climbed up to the ridge again, reaching the conclusion that the tracks were those of a wandering chamois. There was some ice on the rocks, which, although many were loose, presented no technical difficulty. By the time we again reached the arête the red rock was shrouded in snow, and along the ridge we scrambled as quickly as possible to the accompaniment of thunder and entertained by corresponding and almost continuous volleys of oaths from Heinrich. Having reached the col between the Stecknadelhorn and Hohberghorn, we struck down the face on the W. side of the couloir, descending to the Hohberg névé by the same route which we had followed the previous year after our ascent of the Nadelhorn.[4] At first ice, masked by a thin layer of snow, bothered us a good deal. There followed snow, then easy

[4] 'The Südlenzspitze from the Fee Glacier and Other Climbs on the Saasgrat,' *A.J.* **25**, 312–31.

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Photo, Howard Barrett.

ULRICHSHORN, LENZSPITZE, NADELHORN, STECKNADELHORN
and HOHBERGHORN. (DOM in background.)
From Summit of BALFRINHORN.

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Photo, O. K. Williamson.

NADELHORN, STECKNADELHORN, HOHBERGHORN.
From Summit of LENZSPITZE.

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rocks, by following a rib of which we gained the foot of the snow couloir. A little hard snow brought us to the bergschrund at 12.26 P.M., the snow having ceased to fall some minutes before this. Traversing the Hohberg névé we made a détour to avoid passing beneath some threatening séracs above the ordinary Dom route, and reached a gap at the Festijoch, just to the W. of the one which is usually crossed, at 1.10 P.M. Here we threw off our sacks and lunched. 'En tout cas, monsieur,' said Jean, 'nous avons tué le grand diable là.' At 1.55 we again started, and, after halts of 22 minutes, reached the Festi hut at 3.22 and were glad to leave the stony wastes in its neighbourhood for the luxuriant beauties of Randa, where we arrived at 4.55 P.M., the whole expedition having occupied 9 hours 50 minutes, excluding halts. I need only add that Heinrich Fux had led magnificently.

The history of the mountain is not complete without allusion to an ascent by the E. face by Messrs. Geo. Finch and F. Schjelderup, without guides, on August 6, 1913. These mountaineers, leaving the N.E. arête of the Nadelhorn at a height of about 4000 m., after descending slightly, traversed the steep snow wall till they were almost beneath the summit of the Stecknadelhorn. They then ascended the extremely steep snow wall to the S.E. ridge of the mountain, and so in 5 minutes more to the top. This ascent lies between the slope by which Symons and I descended from the Ober Stecknadeljoch in 1910 and the N.E. arête of the mountain.

A fine expedition from the Mischabelhütte to be recommended under first-rate (snow) conditions would be to ascend the Stecknadelhorn by our route, to traverse the ridge to the Nadelhorn and then to descend by the ordinary route.

My last expedition up to the present time on the *Nadelgrat* was made under conditions which may perhaps make it worthy of narration. Leslie Stephen, I think, made the statement that with regard to difficulty no two mountains differ more from one another than does any mountain from itself when under different conditions. With the same pair of trusty guides I started at 4.34 A.M. from the Festi hut on September 14, 1912, our object being to traverse the ridge of the *Nadelgrat* over the Hohberghorn and the Dürrenhorn as far as the Galen Pass. Already late in the season, there was an exceptional amount of snow, some 4 ins. in depth, at that level. After halts of 40 minutes in all we reached the col between the Hohberghorn and Stecknadelhorn, having enjoyed an uneventful ascent except as regards the unusual depth of snow. Halting a

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quarter of an hour we ascended the steep snow of the ridge on its left to the top of the Hohberghorn, where we halted from 11.43 A.M. to 12.10 P.M. Then we went down the N. arête, first of all by snow and easy rock. The weather, which had been cloudy during our ascent, now became beautiful, but there were occasional gusts of wind. We arrived at the top of a steep rock gendarme 100–200 ft. in height. It was necessary to turn on to the N.E. or Ried Glacier face. From an icy ledge with outcrops of rock one had to step across a gully with nothing in particular visible beneath one's feet above the glacier nearly 2000 ft. below, a proceeding rendered distinctly trying owing to the biting N.E. wind. Suddenly a break in the driving mist revealed the Ulrichshorn far below. We reached the arête again, here nearly vertical, and the holds in the rock, although of good size, were full of snow, so that this descent was decidedly difficult and demanded every precaution, especially for Jean, who was last man. 'Descendez doucement, et tenez bien la corde, monsieur!' Indeed, I was unlikely to do anything else than to proceed 'doucement,' especially as the strong gusts of wind blew sharp crystals of snow into our faces and eyes. On safely reaching the foot of these rocks we had a few feet of snow inclined at a gentle angle. Our leader Heinrich then hesitated and to our intense chagrin gave the most unwelcome news that he was on 'blankes Eis,' in fact a slope which usually consists of snow turned out to be, as ill luck would have it, of practically pure ice. Heinrich now proposed that we should traverse across to the S.W. arête and so descend to the glacier, but the fact that this route was unknown to all of us caused the proposal to meet with no encouragement from his companions. Heinrich now cut across the ice slope, an operation consuming nearly two hours' work. Easy rocks then brought us to within a few feet of the Hohberg Pass, and just below this we halted for 40 minutes at 4.35 P.M. It was by this time, of course, perfectly obvious that the further traverse of the ridge was not to be thought of, and indeed that all hope of bed, not to speak of dinner, had vanished for that night, for it was plain that night must fall before we could be off the mountain. On the other hand, it was clearly highly desirable to get as low down as possible. Traversing and descending now on snow, now on shaley rock, after a considerable descent we crossed a large well-marked couloir to the W. arête of the Dürrenhorn, down the easy but absolutely loose and rotten rocks of which we scrambled. After a time we traversed on the S. side, beyond the point

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where Maquignaz, Fux and I had descended in 1909 (' A.J.' **25**), and as it was now dark had to camp on the rocks here at about 7.45 P.M. Our 1909 party had descended on the N. side of the ridge on to the unspeakable rock and stone-covered waste known as the Dürrenpfad, a region which if it were in Great Britain would doubtless have commended itself to certain politicians in search of deer forests or other land suitable for cultivation. A further descent in the dark would have been simple folly, as there was still climbing to be done. We were at a height of about 11,000 ft., close to the top of a steep slope falling away to the Hohberg Glacier. A partly overhanging rock under which the ground sloped outwards, fortunately at first at a very gentle angle, afforded some shelter. We huddled ourselves as close together as possible, our heads towards the rock, Heinrich on one side, I on the other; and my younger guide, after a few minutes' deliberation, gave an admirable summing-up of the situation as a ' verfluchte Sauerei.' I took my boots off to use them as a pillow, and changing my wet stockings put my feet into a rucksack, being by that means able to obtain snatches of sleep. Up the main valley twinkled the Zermatt lights, so near and yet so far. Such nights in my experience always pass very slowly, and this night was an extremely cold one, as will be realized when one points out that next morning when we descended to the valley we found the ground hard frozen for several thousand feet below the level of our bivouac. At dawn we began to prepare for our departure, but my boots were frozen so hard that half an hour was expended in getting them on, and it was 6.30 A.M. before we were able to start. We scrambled clumsily and slowly at first, owing to our stiffened limbs and the annoying kinks in the frozen rope, kinks which Jean always dignified by the description ' queux de cochons.' Down the rocks we went, with short stretches of climbing, towards the Hohberg Glacier, traversed moraine and steep grassy slopes, then descended a few slopes, slippery from short hard frozen grass with outcrops of rock between. We thus reached the right lateral moraine of the Hohberg Glacier, went down grassy slopes below, and crossed over avalanche débris which had fallen from the foot of the glacier. By this time we were thoroughly thawed. We traversed slopes profusely decked with rhododendron, reached a path by a ' Wasserleitung ' in a wide valley rich with luxuriant vegetation now autumn-tinted, and hurried down to the main valley by way of Kühbodmen, reaching Randa at about 10 A.M. on the Sunday morning, September 15, in good time for the

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train to Zermatt, Heinrich having hurried on so as to dispatch a telegram to announce our safety.

About midday three mountain-worn, rather weary, distinctly hungry and very disreputable-looking men were duly deposited at Zermatt Station, where they were met by my wife, who had passed very anxious hours since the previous evening, but had received very great and most tactful kindness from Wollaston. We had been benighted solely owing to the exceptional and very unfavourable conditions of the mountain as regards snow and ice.

Heinrich led throughout on the climb, and needless to say led admirably; Jean, who was as always a pillar of strength, experienced, I am sorry to say, frostbite in one of his fingers, a trouble from which he recovered completely in a short time.

This expedition was the last considerable one accomplished with my friend Jean Maître, my staunch companion and judicious counsellor on many a memorable expedition, whose wise precepts born of his natural sagacity, keen observation and mature experience will remain imprinted indelibly on my memory as souvenirs of a great guide and splendid mountaineer.

The Sierra Nevada of the Upper Kern River, California.

By A. E. GUNTHER.

THE western portion of the North American continent has been thrust into a succession of mountain chains, the Coast Ranges, the Sierra Nevada and the plateau ranges of the Great Basin lying parallel with the Pacific Coast. Within a distance of 100 miles continental earth movements have raised Mt. Whitney to an altitude of 14,500 ft. above sea-level, the highest point in the United States, and have depressed Death Valley 280 ft. below sea-level, the lowest. By far the grandest of these ranges is the Sierra Nevada, which extends almost the length of California, from Mt. Shasta in the N. to the Sierra Madre in the S. This range, restricted throughout its length to a width of 50 miles, gives backbone to the Pacific Coast States and is flanked on both sides by deserts, by the Mohave Desert and the Great Basin on the E., and by the valley of the San Joaquin on the W.

On the E. flank of the range the Owens Valley, a narrow trough-like depression 3000 ft. above sea-level, lies wedged

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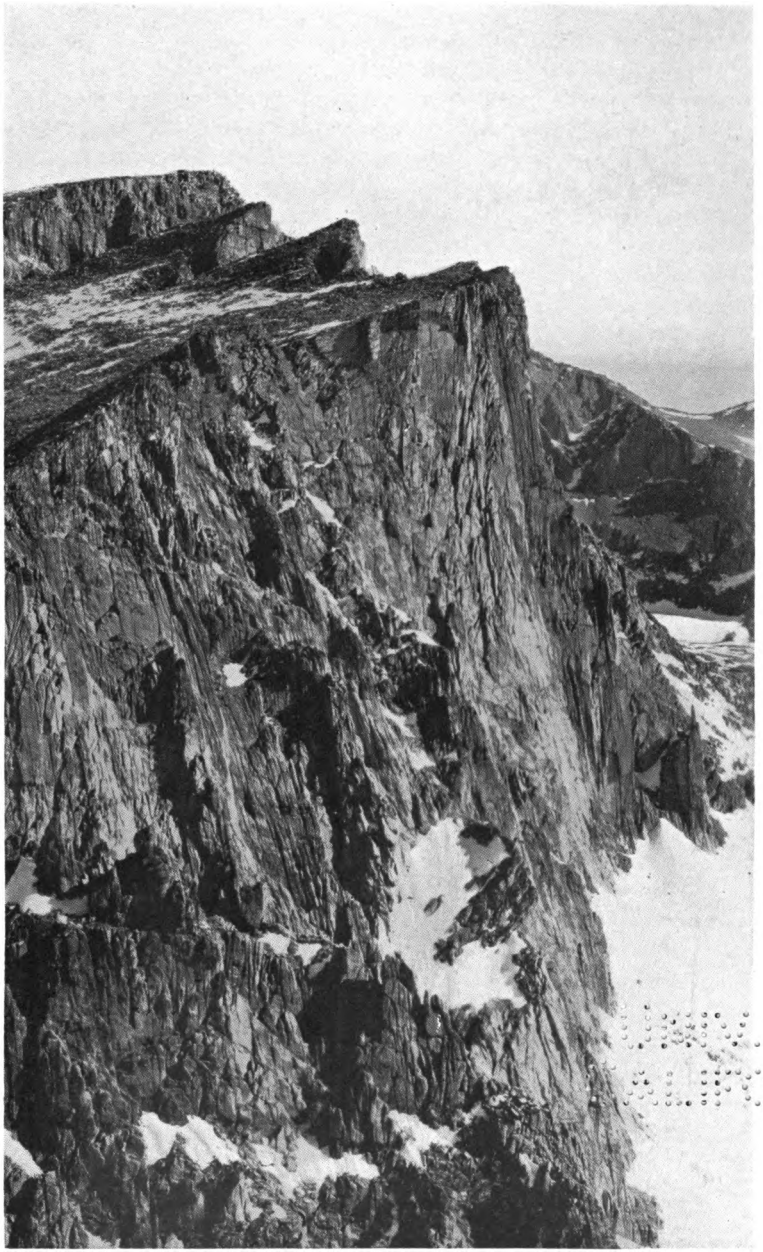

Photo, A. E. Gunther.

Mt. WITNEY, E. face, from Mt. MUIR.

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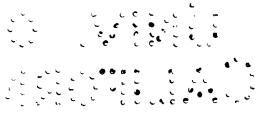

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between the mountain systems of the Great Basin and the Sierra Nevada. The fault that caused the in-sinking of the Owens Valley also caused the elevation of the Sierra Nevada, which rises above the valley steeply for 10,000 ft. within a dozen miles, and which forms a seemingly impassable barrier above the W. side of the valley. The men of '49 had to cross the range either in the S., where the hills are lower and less rugged, or by the northern routes, snow-bound throughout the winter. To-day pack trails from the villages in the Owens Valley, from which the ascent of Mt. Whitney may be made in two or three days, penetrate into the heart of the ranges. Except by packers, hunters, and fishermen, however, these trails are little used, for the population of California is centred on the coast about Los Angeles and San Francisco and it is more usual and convenient to pack into the Sierra Nevada from the W. side, flanked by the San Joaquin Valley.

Fifty years ago the San Joaquin Valley, a flat elliptical basin 550 miles long and 50 miles wide, was as arid a desert as the Mohave is to-day, but extensive irrigation has transformed barrenness into fertility; cities thrive upon the wealth of this land, and the products of its ranches and thousand small homesteads—oranges, lemons, grapes and figs—can now vie with the fruits of more naturally favoured lands.

On the western side, where the Coast Ranges give little water for irrigation, the greater part of the valley remains uncultivated and the road from Bakersfield northward stretches across a plain on which only an occasional compound of eucalyptus trees shading a petrol service station, a cluster of tumbledown Mexican shanties or a refreshment counter breaks the monotony of sandy waste. The road from the lowlands to Mineral King, one of the many packing stations in the hills above the valley, turns east from Visalia, the centre of local lemon plantations, the outcome of native, Mexican and Italian labour. During the long hot days these valley cities appear deserted, but after sundown the streets give signs of animation; then for a few hours loafers abound; people move slowly between shops, never hurrying, for the temperature falls little below 100° in the summer and the heat sticks with the cloying weight of a poultice.

East of Visalia, the well-paved road crosses the flat plain to the foothills and winding between them climbs the monotonous belt of parched, undulating landscape, separating the desert valley from the forest belt in a regular line for the length of the Sierra Nevada. The Sierra foothills are brown for nine months

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of the year and green for three; in March or April, after the spring rains, the hills are covered with a mantle of greenness and flowers which withers with the first scorching days of summer.

From Lemon Cove, among the chaparral slopes of the foothills, the road follows the Kaweah river for a distance and then begins to climb more steeply, a tortuous, winding cliff road furrowed into mountain spurs rising precipitously upon one side and falling vertically for several hundred feet into the torrent of the Kaweah river on the other. There can be no speeding here, or the motor will overheat and fail on account of altitude up grades that rise 1 in 4; but for the Californian 'sticks' the road surface, though rutty, is good, and at a speed of ten miles an hour you rise to Mineral King, lying at an altitude of 8000 ft.

A ranger station, post-office-grocer, a few cabins for transient guests, the packers' stable and corral, and a half-dozen permanent residents compose Mineral King, an outpost of Californian civilization typical of the many packing stations existing along both the E. and the W. slopes of the Sierra Nevada. Mineral King is supported by those who come and go from the mountains from late spring until the close of the deer-hunting season in October; the season begins when the winter snows have melted, and ends upon the first fall in autumn. During the winter months, when the snow covers the chimney stacks, the inhabitants of Mineral King migrate to the valley, there to rest their stock and graze it before another summer's work.

Many of these packing stations are the legacy of an age departed; Mineral King was established as a miners' camp in 1872, and derives its name from the fact of its being the king of the mining districts at that time. But the mines never proved productive. The packers are among the remnants of a pioneering race. There is little modern high-pressure salesmanship in these old-timers; you feel that they are still men. But they are giving way to a modern type which sees in packing not so much an honest means of living the rough western life as a means of 'making good.'

Phil Davis, renowned for the sturdiness of his stock, is a packer of the old school, a man of pioneer type born and raised in the saddle upon a farm in the Middle West; and though bowed with age he is every inch a man. He sums you up at a glance—'another city goof, eh?'—and tells you that your mules are waiting; then with what little confidence is left in

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you, you make pretence of 'knowing your mules,' simulate the brusqueness and profane bally-hoo of the packer, and get started as best you can. But Old Davis is not deceived, neither are the mules for that matter, for they feel something amateurish going on behind them, and if you cinch the girths a little tightly, the calm reproachful visage will swing round and rebuke your clumsiness with a single look.

The packing-in station of Mineral King lies S. and W. of Mt. Whitney, a distance of eighteen miles as the crow flies, but the shortest route to Crabtree Meadow, from which the ascent of Mt. Whitney is made on the W. side, must first cross the Great Western Divide, separating the headwaters of the Kern River Basin from the western slopes of the range, and then the Kern River Cañon which bisects the Chagoopa Plateau and prevents access from one side to the other without a long détour involving a fall and a climb of several thousand feet. The trails throughout the High Sierra are well graded and kept in good condition, so that it is usual to make the forty-five odd miles to Whitney base-camp in three or four days.

Entering the Sierra Nevada by the western approaches, either from Mineral King or from the Sequoia Forest, the first night's camp is usually made on the floor of the Kern River Cañon, one of the wonders of California. In beauty it is second only to Yosemite, in interest it rivals it.

The work begun by a major rift has been superbly completed by glacial erosion, for during the Ice Age a glacier generated in the N. and fed by tributary streams from the ranges running parallel upon the E. and the W., cut a U-shaped valley running with remarkable straightness due N. and S. for a length of twenty-five miles. From cliffs above the S. end of the cañon one may follow the pine-carpeted floor of the valley for its entire length to the point where the headwaters of the river are lost among the peaks of the Kings-Kern Divide, and one may see how this trough, nowhere more than a mile in width, was cut to a depth of 2000 ft. out of an expansive plateau of granite rock lying 10,000 ft. above sea-level, and how to-day the cañon forms an almost impassable barrier between the E. and W. sides of the plateau.

The steep trail zigzagging up the E. wall of the cañon opens out on to the rim of the Chagoopa Plateau, the floor of an ancient valley, which, to judge by the gentle undulations that characterize the remnants of it, appears to have become maturely eroded before the advent of the Glacial Period. This ancient valley was surrounded by mountain ranges that

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lay about it in the shape of a horseshoe open to the S.; mountains of the same age as the valley and with outlines confluent with it; so that the character of this upland plateau before the advent of the Glacial Period was geologically mature. From this condition the country was transformed into its present ruggedness by ice action during the Sierra Glacial Period. The work of the glaciers upon the ranges surrounding the plateau is no less striking than was the dissection of the plateau itself.[1]

The glaciers did their work with thoroughness; gigantic cirques were excavated, cañons were carved out of gently undulating slopes, and the junction of cirque walls between opposite slopes left serrated knife-edges and pinnacles which now form the summits of the ranges. This process of aggradation continued the length and the breadth of the Sierra Nevada, but nowhere was the work done as thoroughly as on the precipitous E. side of Whitney Range, above the Owens Valley, where the cliffs from the summit of Mt. Whitney fall sheer for 2000 ft. into cirques and cirque tarns below. Few fail to be impressed by the complete desolation of this desert plateau 11,000 ft. above sea-level.

The trail S. from the Kings-Kern Divide leading to Crabtree Meadow and Mt. Whitney traverses the Sandy Plateau, an expansive flat of arkose grits; from Tyndall Creek the trail rises steeply to the rim of Sandy Plateau, and for the next mile or so crosses an expanse resembling the Mohave Desert more than a bit of the most rugged country in California, but with the difference that instead of warm tones the colours here are cold and suggestive of perpetual winter.

What a contrast are the views to North and South! South, one gazes upon the remains of an ice-dissected range rugged and carved; Chagoopa Plateau shows the results of this dissection. Sandy Plateau, a mile or two square, slopes gently to lower levels upon all sides except the E., where it rises into the northern extension of the Whitney Range. The plateau appears isolated because, when marching across the middle part of it, the immediate horizon is never more than a mile distant. No trees grow to break the horizon line and, except for a low-lying sward, there is no trace of vegetation, nor sign of any living thing. The distant horizon is formed by the circle of grey peaks that

[1] Lawson: 'The Geomorphogeny of the Upper Kern Basin,' *Bulletin of the Department of Geology, University of California*, February 1904.

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enclose the Kern River Basin, and between these and the rim of the plateau, a distance of ten or twenty miles, the space appears void, like the bottomless gulf of Dis. Infused into this vast expanse is the spirit of the Tibetan plateau leading towards Mt. Everest. A group of Whymper tents, brown, heavily clad Gurkhas and piles of rock loosely scattered to give local colouring would make an ideal 'set' for sham Hollywood 'expeditioning.'

If Mt. Whitney is the object of the next day's march, it is customary to bivouac in Crabtree Meadow as high up the creek as the timber line yields fuel; the pack mules are hobbled for the night and turned loose to graze upon the narrow meadows that meander with the torrent, which further westward tumbles, a cloud of spray, into the Kern River Cañon. The mules will not wander, they have made the trip a dozen times and know that there is no better feeding ground within ten miles of the meadow. You pitch camp beneath a grove of twisted tamarac trees; you cook an incredibly large supper, and spend the chilly evening resting beneath the stars upon carpets of pine needles and warmed by the crackling blaze of a resinous pine log, a custom indigenous to the High Sierra. Then early into the sleeping bags, for the warm day gives way to winter frost after nightfall.

'Until the year 1864, the high peaks of the southern portion of the Sierra Nevada were virtually unknown. It was suspected that there were lofty peaks in this region; but the people of the neighbouring valleys were not especially concerned with the comparative altitudes of mountains and no geographers had yet investigated them. In that year, however, a field party of the California State Geological Survey discovered in this region a peak which seemed to rival, if not surpass, Mt. Shasta in altitude. They named it in honour of Professor Josiah Dwight Whitney, chief of the Survey.

'This exploring party, led by Professor William H. Brewer, entered the Sierra from Visalia and moved eastward toward the headwaters of the South Fork of the Kings river.' [2]

On July 2, 1864, two members of this party climbed a summit, now known as Mt. Brewer, and obtained an astonishing view of the Sierra Nevada which showed them the existence of a range

[2] Mr. Francis P. Farquhar, the Editor of the *Sierra Club Bulletin*, kindly lent the writer the proofs of his article 'The Story of Mt. Whitney' which appears in the *Sierra Club Bulletin* for 1929, and from which the material for these notes on Mt. Whitney was largely obtained.

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of peaks to the S.E., higher by several hundred feet than the one upon which they stood. Two days later Clarence King, a member of the Survey, with a companion, Richard Cotter, set out to reach the highest summit of this range, and in the course of an adventurous six days' walking climbed a peak, which they named Mt. Tyndall and from which they saw that there were two peaks higher than it: one on the E., Mt. Williamson, and another lying to the S.S.E. six or seven miles distant, Mt. Whitney. During the same month King made a second attempt to reach Mt. Whitney from the W. by way of the Kern River Cañon, and according to the official account failed to attain the summit by a few hundred feet.

In the summer of 1871, Clarence King, then in charge of the United States Geological Survey of the Fortieth Parallel, again attempted Mt. Whitney, but in mistake for the real summit climbed Mt. Langley, another dome-shaped peak resembling Whitney, further S.; for on that day 'sombre storm-clouds and their even gloomier shadows darkened the northern sea of peaks'[3] and hid the real Mt. Whitney from view. It was not until two years later, in 1873, after several parties had ascended the false Mt. Whitney without questioning King's claim for its being the highest peak on the range, that the mistake was discovered; and the real Mt. Whitney was climbed at last by a party of fishermen from Inyo County on August 18 of that year. These gentlemen, who claimed the first ascent, wished to name Mt. Whitney 'Fisherman's Peak,' and a letter published in the *Inyo Independent* of September 20, 1873, quoted in Farquhar's article, forwards their contention:

'. . . Charley Begole, Johnny Lucas and Al Johnson took a trip to the summit of the highest mountain in the range and christened it "Fisherman's Peak." Some people are now trying to take the credit of their being the first there away from them, but they won't succeed. Prof. Whitney's agent has just returned from the mountain, and finds fault with the people here for their lack of romance in calling it "Fisherman's Peak." Ain't it as romantic as "Whitney's"? The fishermen who found it looked mighty romantic on their return to Soda Springs. Wonder who the old earthquake sharp thinks is running this country anyhow?'

The ascent of Mt. Whitney from the W. is not a climb; it is hardly a scramble—not in Whymper's sense certainly; it is a stiff uphill walk for 4000 ft. within a distance of six miles

[3] Clarence King: 'Mountaineering in the Sierra Nevada,' 1872.

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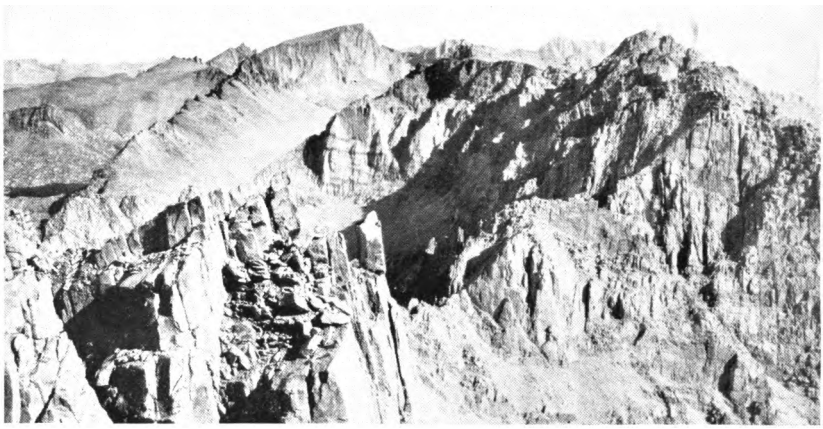
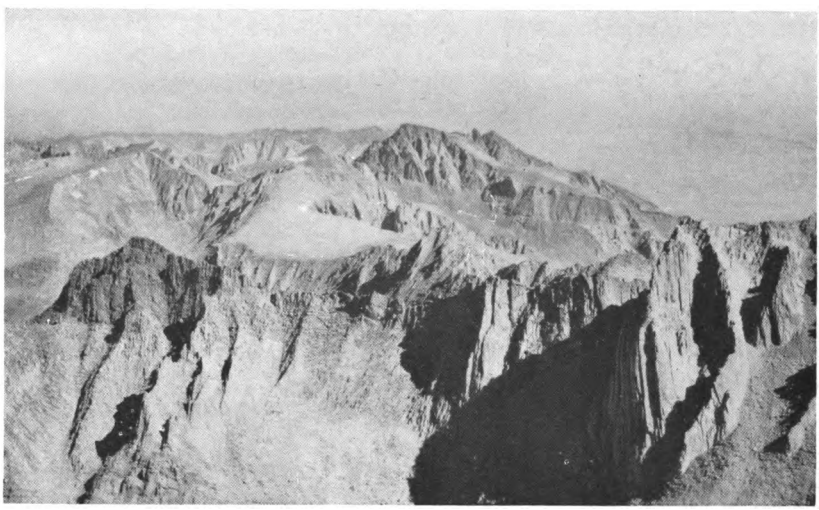


Photo, A. E. Gunther.

Mt. WITNEY from Mt. LANGLEY.



Photo, A. E. Gunther.

SIERRA NEVADA, due N. from Summit of Mt. WITNEY.

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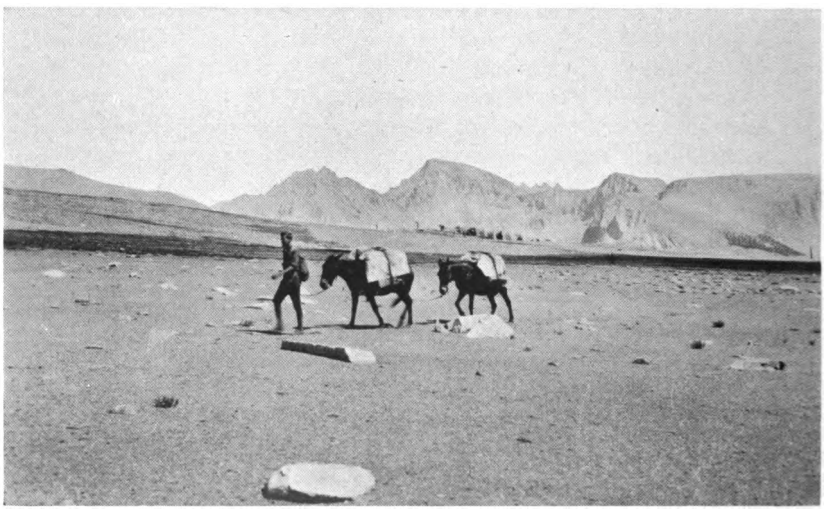
Photo, A. E. Gunther.

Mt. WITNEY, E. face, from Mt. MALLORY.



Photo, A. E. Gunther.

"Sandy" Plateau.

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from Crabtree Meadow. The ascent can be made in 2½ hours, but the townsman who has 'made' Mt. Whitney his only mountaineering ambition may take 4 and even 5 hours over the ascent unless he shortens the march by riding to the foot of the steep W. slopes at 12,500 ft. by a well-graded mule trail. So popular is the ascent that in some years parties of the Sierra Club may be seen strung out a hundred at a time following a tortuous route upwards, like Mark Twain's guides roped in file at 12-foot intervals ascending the Riffelberg with a latinist, twenty-seven kegs of paregoric and 154 umbrellas.

The ardent climber may be supercilious about the ascent of Mt. Whitney, but he cannot decry the view. Where the radius of vision is not restricted by nearby ranges, as on the W., the view is generally clear for 100 miles in any direction. The Panamint Mountains above Death Valley, a distance of exactly 100 miles as the crow flies, stand out clearly, while beyond them lies a vast expanse of arid plain intersected by parallel ranges fading into the hazy distance of the Great Basin in the State of Nevada; 10,000 ft. abruptly below and seemingly within stone's throw, lies the Owens Valley, crumpled between mountain ranges, a desert trough whose dreary monotony of yellows, burning reds and ashen browns is broken here and there by narrow stretches of verdure following irrigation streams, or patches of cultivation around the 'hick-burghs' of the valley. These diminutive townships with their half-dozen streets laid out in square blocks seemed like an Ordnance Survey Map, and in that vast expanse of desert 'Main Street' never looked more petty. Further to the S. the Owens Lake, an oval of dark acrid water and glistening salt deposit, stood out black and dazzling against the brown sage plain.

The E. face of Mt. Whitney, best seen from peaks further S., is a cirque wall, a precipice falling almost sheer into cirques and cirque tarns 2000 ft. below. So far no attempt has been made to scale these heights, but the writer is convinced of their accessibility; there are probably several routes by these cliffs to the summit of Mt. Whitney, and also to the summit of Mt. Muir, a smaller pinnacle on the same range as Mt. Whitney, a mile to the S. Mt. Muir, another of the 14,000-ft. peaks in the High Sierra, named after John Muir, 'the beloved mountaineer,' is an easy climb of 200–300 ft. from the Lone Pine trail which contours the W. side of the Whitney Range N. of Whitney Pass, the line of ascent from the Owens Valley.

The glaciers that covered the High Sierra did not extend far S. of Mt. Langley (14,042 ft.), another flat-topped summit like

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Whitney, and 3½ miles further S. The hills S. of the peak show little ice dissection and by their unglaciated topography clearly indicate the outlines of the plateau system that existed before the advent of the Ice Age.

Between Mt. Langley and Mt. Muir there are four other peaks of interest. For one, at present unnamed, a peak of 13,800 ft. which has been climbed but once, the name of Whymper has been suggested unofficially. On the E. side of the range commanding the Owens Valley stand two other peaks, Mt. Mallory (13,870 ft.) and Mt. Irvine (13,790 ft.), named by the Sierra Club after the gallant Britons who lost their lives in the last assault upon Mt. Everest in 1924. The fourth mountain, but twice climbed, is Mt. Le Conte. It lies S. of Mt. Mallory and commemorates the name of Professor Le Conte, who became professor of geology at the University of California in 1869 and who pioneered much of the High Sierra country.

As the mountains in this region rise above a plateau already highly elevated, and in many cases the plateau or the cirques cut into it slope up to the base of the summits, there is seldom any difficulty in making the ascents of the higher peaks. The folding that is so characteristic a feature of Swiss Alpine geology, and which has produced such extraordinary results there, is absent here. The geological formation of the Sierra about the headwaters of the Kern river has been a far more simple affair. A vast batholith was intruded into sedimentary rocks which, when eroded, left the granite core of the batholith exposed; and the remains of this exposed surface are found to-day, partly as the Chagoopa Plateau and partly as the undulating spurs that rise from it—the remains of a maturely eroded valley. Glaciers during the Ice Age transformed much of this undulating plateau surface into cirque-dissected ranges, the present condition. But the summits and slopes of some of these pre-glacial hills remained untouched by ice action, and their remnants to-day form the flat-topped summits of Mt. Whitney, Mt. Langley, Mt. Tyndall and others, and these give no climbing at all. Much of the precipitous ruggedness of the ranges is due to the aggradation of glacial cirques which has eaten into the heart of the ancient plateau. The intersection of opposing cirque walls has reduced the flat summits to knife-edge crests or lines of sharp pinnacles, often much below the original surface of the plateau. So that where the surface of the original plateau forms the summits of the range, the summits are flat; where it does not, more interesting peaks are found. But even on these, the actual work of climbing above the scree

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slopes of the plateau or above the heads of cirques is often reduced to as little as a few hundred feet. Mt. Le Conte and Mt. Russell are interesting examples of short Sierra climbs.

Mt. Russell, 14,196 ft., a mile N. of the summit of Mt. Whitney, first climbed by Mr. Norman Clyde in 1926, was considered difficult; but since that year three other parties have made the ascent from the N., E. and S. sides. Mt. Russell serves well to illustrate the rock structure typical of many of these 14,000-ft. peaks. A party camped in Crabtree Meadow can make the ascent from the S. side by Whitney Creek easily in a day. The route from Crabtree Meadow to the saddle between Russell and Whitney, a rise from 10,500 to 13,000 ft., follows up a glacier stepped U-shaped creek heading into the saddle. From this screes extend upwards and give out into cliffs within 300–400 ft. of the summit. Climbing then begins. A chimney is followed that opens on to the knife-edge of the S.E. shoulder, and following up this, the summit is reached by a hundred feet or so of real, but not difficult climbing. Therefore, the kudos acquired in scaling a 14,000-ft. peak in the Sierra Nevada is small compared with that acquired from scaling a Swiss mountain, smaller perhaps and with a name less well known than that of Mt. Russell here.

The summer months are almost invariably fine in the High Sierra; between June and September storms are few and do not often last longer than twenty-four hours, and snow melts in a few days. Old-timers remember severer winters in California than are ever known to occur to-day; in those days 40–50 ft. of snow at Mineral King, was a common occurrence, and in the summer the snow left unmelted in the high regions was considerable. Clarence King, who, with Richard Cotter, was the first to traverse the headwaters of the Kern river in July 1864, describes how strenuous and how more difficult the conditions were made by the snow and ice fields in Tyndall Creek and upon the summits of the Kings-Kern Divide. Crossing the same ground in the summer of 1928, the writer was impressed by the complete absence upon the higher peaks of snow and ice, which to-day seldom interferes with climbing.

Finally, to make perfect the joys of scrambling in the Sierra, the rock is composed largely of undecomposed granite; and even on a comparatively smooth face it is rare that the climber fails to find a foot- or a hand-hold, for weathering leaves large feldspar crystals protruding which give a safe grip.

Of the other 14,000-ft. peaks above the Owens Valley on the E. side of the Sierra Nevada, Mt. Barnard and Mt. Tyndall

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are both accessible without difficulty from the Chagoopa Plateau. East of these and standing away from the main range is Mt. Williamson, a solitary mass of dark metamorphosed rock contrasting with the white granite of the range. Mt. Williamson (14,374 ft.) is the sixth highest mountain within the continental United States, and, like the Kaweah Group on the W. side of the Kern River Cañon, affords one of the more strenuous climbs in the High Sierra. The peak was first climbed in 1884, and though it has not been ascended frequently since then, it is not as difficult a climb as was first thought, several routes having been found to the summit. It is usual to approach Mt. Williamson direct from the Owens Valley because access from the W. by the Chagoopa Plateau is interrupted by the Tyndall-Barnard range separating the peak from the Kern River Basin.

It is interesting to recall that, outside Alaska, there are sixty 14,000-ft. peaks in the United States. Of these, thirteen are in California, forty-six in the Colorado Rockies, and one, Mt. Rainier, in the State of Washington. California has the highest, Mt. Whitney, and the sixth highest, Mt. Williamson, and therefore shares the honours with Colorado which, with Mts. Elbert (14,420), Massive (14,404) and Harvard (14,399), claims second, fourth and fifth places. Mt. Rainier comes third with an altitude of 14,408 ft.

The Kings-Kern Divide is the watershed between the headwaters of the Kern river flowing S. and the Kings river flowing N.; both streams flow eventually into the San Joaquin Valley and pass each through a famous cañon bearing the name of the river. The Kings River Cañon, magnificent though it is, has not the grandeur of Yosemite nor the character that makes the Kern Cañon so attractive, and since it lies to the N. of the Kings-Kern Divide, falls out of the range of these notes. The Kings-Kern Divide is a double watershed in the sense that it divides not only the valleys to N. and S. but those on the E. and on the W. sides of the range; creeks on the E. side drain into the Great Basin, and on the W. into the San Joaquin.

Of the higher peaks of the Kings-Kern Divide, Fra Junipero Serra Peak, previously called Junction Peak (13,903 ft.), Mt. Stanford (13,983 ft.) and Mt. Ericsson (13,625 ft.), none offer difficult climbing, and of them all the view from Fra Serra Peak is perhaps the best, for the summit not only commands the steep E. side of the Sierra Nevada above the Owens Valley and the vast expanse of the Great Basin eastward, but also the headwater regions of the Kern and the Kings River Cañons,

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and the seemingly endless tiers of ranges to the N. between Fra Serra and Yosemite. The ascent of the peak is usually made by Diamond Mesa from the S. side, and though presenting no difficulties, the climb has been made but seldom; the Sierra Club casket upon the summit records a bare half-dozen ascents since the peak was first climbed in 1899. Though not difficult, Fra Junipero Serra Peak presents opportunity for sporting scrambles by sides other than the S. and easiest. The E. face of this mountain is probably unscalable, but the N. buttresses falling steeply into Bubbs Creek give all the excitement a climber can wish for.

The ascent of Fra Serra is best made from a camp on the timber line in Tyndall Creek, a bleak, glacier-worn valley typical of much of the Chagoopa Plateau country at the head of the Kern Cañon. The topography of the entire Chagoopa Plateau about the headwaters of the Kern River Cañon is strikingly glacial; the undulating surface of arkose grits is broken everywhere by moraine heaps and by blocks of granite 'perchés,' immense as houses and as small as the fist, lying scattered promiscuously over this vast surface. Here patches of grass grow close by local springs in the hollows of the creek, and there pretty clusters of dwarf, blue-petalled lupins shelter beneath protruding cliffs.

The trail into the Kings River Cañon from the S. crosses the divide by the E. side of the range, falling steeply from Shepherds Pass (12,050 ft.) to 10,000 ft. above the Owens Valley, and then climbs again to Junction Pass (12,250 ft.) at the head of Bubbs Creek.

The Sierra Nevada becomes yearly more accessible, both by the approach from the Owens Valley eastward, and more especially from the W. by the San Joaquin; *via* the latter, the Yosemite and Sequoia National Parks are both within a day's run of either Los Angeles or San Francisco. These parks are the most frequented holiday grounds on the Pacific coast, and the motoring public throng there by the thousand every summer. The absence of roads discourages the crowd from the higher Sierra country where amenities of civilization have to be left behind, where the nights are cold, and where the traveller must 'scorn delights and live laborious days,' coaxing refractory mules.

Hundreds of miles of well-graded mule trails extending beyond the road's end form a network throughout the Sierra, and, after the melting of the snows in early summer, make accessible the length and the breadth of the ranges. The

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construction of a pony track from Lone Pine in the Owens Valley to the summit of Mt. Whitney will be completed during 1929. As the highest mountain in the United States outside Alaska, Mt. Whitney is perhaps the most popular summit in the Sierra Nevada, and though hundreds climb the mountain every summer, it is surprising how few venture further into the ranges or attempt the lesser but more interesting peaks. During a three weeks' packing trip among the Whitney Ranges last summer, the writer with a friend met about two dozen people, and for these the interest in packing-in consisted rather in 'doing' Mt. Whitney than in getting off the trails to climb unfrequented peaks. No strictly climbing parties were met at all.

But it must not be thought that because the summits of many of the highest peaks (those in the neighbourhood of 14,000 ft.) present little mountaineering difficulty, or are merely stiff 'hikes,' there is a lack of good climbing on the Sierra Nevada. On the contrary, these ranges abound in interest. The E. face of Mt. Whitney has never been scaled; several ridges, that joining Mt. Langley with Mt. Le Conte, for instance, offer a hard and interesting climb, and there are numbers of scrambles as good as these that are still untried. Although few first ascents are left for the pot-hunter, the Sierra Nevada may be considered by the real climber as a pioneering ground, and it is hoped that British members of the Alpine Club will take a greater part in the work of exploration than they have done hitherto.

Climbs from Maligne Lake (Northern Canadian Rockies).

By MAX M. STRUMIA.

A SECOND visit to an Alpine group is sure to produce an impression a good deal different from that of the first sight. I never was so aware of this as upon returning to the glorious Scott Glacier, two days after leaving Jasper and four years from our previous visit. The intervening time of common life shrank away to vaporous memories in which even the personality was lost, leaving for the first hour a sense of excitement and confusion in which the early scepticism was fighting a losing battle. A little later, when camp was set over the

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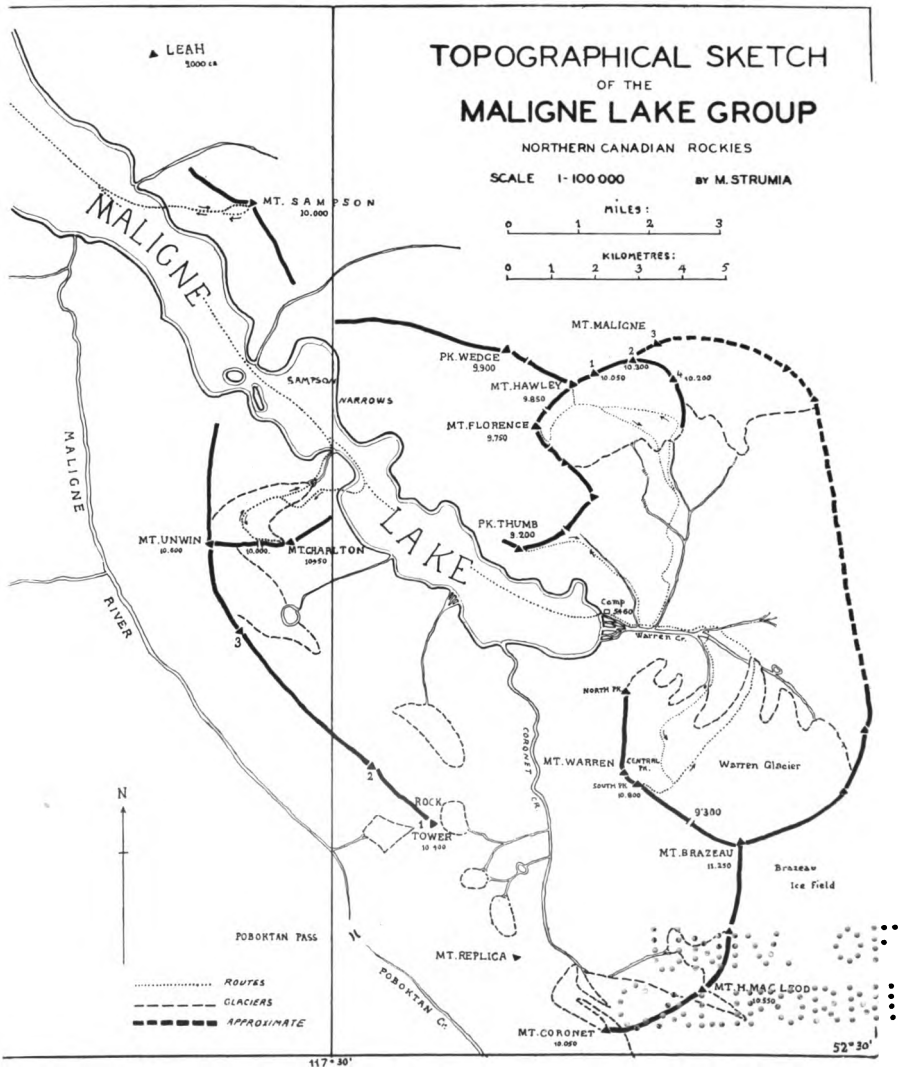

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ashes of the old one, down the immense frozen river came, with the late evening breeze, a melody of memories that introduced the first movement of a great symphony. The company was in part the veterans of the 1924 campaign: Dr. J. Monroe Thorington and David Moberly, the trail guide; newcomers were William Hainsworth, Julian Hillhouse, and Harry, the cook. Next day, June 28, 1928, we submitted to the burden of monumental packs, and trod slowly up the Scott icefall for the first struggle after the winter lethargy. About 5 hours later we established a camp upon the right orographic moraine at an altitude of about 8000 ft., immediately in front of a huge buttress of Mt. Ermatinger, ploughing into the frozen waves of the Scott Glacier. To call that a camp would really be mystifying; our abode was made of two tent cloths stretched over a boulder and weighted down with stones, leaving just enough space for us to crawl under in a rather undignified fashion.

The same day we directed our weary steps to Mt. Scott, but the clouds kept pace with us and soon the mountain tops were covered. As we were reaching, late in the day, the summit ridge, a strong wind came up from the cloud-covered Alnus Creek valley, and soon we were in the midst of a heavy storm. Snow began to fall, driven by a freezing wind; blinded and tired, we came to a place where the ridges suddenly dropped on all sides. As Hainsworth and I attempted to build a cairn, in a temporary lull, we could follow the main ridge dropping away in a N.W. direction and losing itself into the trembling white of falling snow. That night, between unsuccessful attempts to find a soft spot for weary bodies, the doubt was expressed that the peak reached was not the highest of Mt. Scott.

Next day, from the summit of Mt. Ermatinger (10,080 ft.), we were all easily convinced that the spot reached the previous day was the lower or S. peak of Mt. Scott (10,500 ft.). Mt. Ermatinger, a first climb, offered but one difficulty: a perpendicular chimney at the base of the S. ridge.

The rest of the ascent was a walk over shale and the flat, snowy S.E. ridge; a prosaic end to a great promise. But we needed training and the skin tanning, and we had a fairly good amount of both. From the heavily corniched summit, however, the view was of the greatest: Serenity, Hooker, Scott, Evans, enclosing us in a gigantic amphitheatre—a quiet survey of past battles and prospects for future days. At night we had rain, with a leaky roof, giving me a chance to be proud of a waterproof contraption, a combination wind-jacket, rain-

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coat, and sleeping bag. With a little more warmth it would have been fair!

The last day of June came in a gust of wind with billowing clouds. Below, there was a heavy blanket of undulating mist. Thorington and Hillhouse chose to remain in camp. Hainsworth and I left, and rapidly retraced our steps up the S. peak of Mt. Scott, over a steep incline of unstable shale and very soft snow. The wind was very high; soon snow began to fall and the temperature took a sudden drop. For a moment we felt very doubtful about the issue of the day. We stopped only a few minutes on the S. peak, then we roped and started down a broken, steeply inclined ridge, lost in the mist. All day long, except for a few minutes on the return, we could barely see more than 100 ft. The rocks were icy, the cold intense; from the S. peak we descended, perhaps 150 ft., to a thin aerial saddle formed of a cluster of tottering pyramids of disintegrated rocks, hemmed between two deep gashes of the ridge. This fell away towards Alnus Creek in a terrific, dark, perpendicular wall, and sloped to the Scott Glacier by a steep incline of smooth rocks and snow banks. There were a few delicate passages about the saddle, which we had anticipated as a mere walk. Then, after the second gap, the ridge once more flung upwards; thin and rocky first, with an occasional rotten corniche threatening ruin over the Alnus Creek valley; then snowy. The ridge unfolded before us a little at a time in the thick mist: at times a white, ghostly apparition, at times a dark skeleton of perspiring rocks. The upper part of the ridge rounded up, and at 10.55 it ended abruptly on a narrow ledge flanked to the E. by snow, falling to the W. and N. into a nothing of swirling mist. We were on top (10,826 ft.); it had taken us 4 hours from the high camp. As Hainsworth contributed a fair-sized cairn, I entrusted to the notebook the impressions of the ascent. The fog broke up at intervals, revealing the precipitous E. face of Mt. Evans as a spectral apparition. Away down to the N.E. we could, for a short moment, identify Mt. Ross Cox and the ridge leading to Divergence Peak; farther away, Fryatt, Belanger, La Pensée, and Brussels Peak. We caught several glimpses of the immense frozen river running at our foot: Scott Glacier appeared unexpectedly near, and almost inviting. But Mt. Scott was jealous of other beauties and again drew a veil about us, and we remained a short hour to wander along with the drifting clouds. I always looked upon these hours of mystic contemplation or of intimate reverie as a rebellion of the better

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part of us against a purely sportive tendency, as a liberation of mind from the bondage of aching muscles. But a closer analysis is rapidly convincing me that in many instances this change is probably only a phenomenon of fatigue.

On the return to the saddle the fog again lifted for a short while and we again paused to admire that beautiful ridge disappearing into a mystery of shifting grey. Then we rolled down to camp, to complete the descent in about 2 hours. There the sun shone unmercifully and threatened the last vestiges of skin on the nose of Thorington and Hainsworth. At night it rained again ; it was warm and wet when we broke camp at 2.30 in the morning. Crossing the immense basin of the Mt. Hooker Icefield in all its length, we reached the base of the S.E. ridge of Mt. Evans, which we followed without difficulty to the summit, 7 A.M. (10,460 ft., first ascent). A little after 1 P.M. we were back in the hospitable base camp.

The next part of the programme called for a short digression up the Middle Whirlpool Creek ; it gave Hainsworth many opportunities for good shots with his cinematographic outfit, and it turned out a great success as a fishing trip. Alpinistically, it gave us a glimpse of several peaks in the Needle Group that will form the delight of many cragsmen to come. More rain on the return to Jasper, which we accomplished in 2 days, having had to renounce a course up the Divergence Creek because of floods in the Whirlpool. For the second time Divergence Creek had proved an obstacle : in 1924 we simply missed it, and a tributary creek blocked our efforts toward Mt. Fryatt. Now, the high water of the Whirlpool would have made the crossing a long affair, if not a dangerous one ; and I was anxious to reach the last lap of the course and the main one—the Maligne Lake Group. I had looked toward it longingly for the whole winter, but I had no preparation of any sort, except the physical one. In fact, the literature of the region, what little of it there is, was unknown to me ; I had a short list of names, and Thorington suggested that a few of the peaks had been climbed. I was equipped with a rather schematic map, a compass, a borrowed aneroid, and a great desire. Later, Hainsworth, joining me, brought the incomparable help of a small level and his charming company. On July 6 the four of us set out from Jasper after leaving the faithful horses for an automobile. In the first part of the journey there is little to suggest the great splendour of the valley above, but the road is very comfortable. After the Maligne Cañon, which we admired at length, we came upon

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what was unanimously voted the most dangerous portion of the journey: a newly opened automobile road which we negotiated with 'Curly' Phillips at the wheel, and, surely, only his great knowledge of horsemanship kept him from being thrown out half a dozen times. Leaving, with no regrets, the automobile, we travelled comfortably in a motor boat 5 miles up Medicine Lake, a green mirror of pines and fantastic rocky teeth. Here Phillips proved as good a sailor as he had been a driver. At the S. end of the lake a chalet was being built, but the restaurant was already open. That was one of the bright spots of the day; because even the most inveterate dreamer must admit that the euphorbia set up by a good meal will at least improve the appreciation of Nature's greatest masterpieces; and we were moving toward one. Ten miles of comfortable walk followed along a foaming torrent; suddenly, at a turn, cut in the sky, between the silhouettes of ascending tiers of pines, appeared a twin mountain, far and glittering—Mts. Unwin and Charlton. There we left the river, and ploughed in a thick growth of dark pine; we had been singing and talking; now we were intent. Shadows were lengthening and with them the eternal spell of the heights was spreading; we could not see them, but we could feel them about. Then, as if the green curtain had parted, they appeared, a long line of giants, severely mirrored in the still blue of Maligne Lake. They seemed to rise from the very depth of the silent water, as crystallized Desire.

History seems to repeat itself even in mountaineering events. Palmer and Carpe had been disappointed about a certain motor boat about 5 years before; we were also to be told that the boat was not in running order. But we were luckier: Hainsworth put his engineering skill and his craftsmanship to great use when he and Jack Douglas, the skipper, improvised a complicated rigging with curved pine trunks and attached an outboard motor to a large canoe. It was dark when the boat was launched; a few minutes later, it glided in a huge circle. Its roar awoke far echoes and sounded like a defiance to the slumbering giants.

A comfortable bed had decided advantages over tent life, and we did not hesitate to take full advantage of it. In fact, on July 7 we left the chalet only at 8 A.M. for Mt. Charlton. A great sensation, indeed, that of gliding over deep green water towards unknown adventure, with every turn revealing a little valley, a trench of green ending against nameless white apparitions.

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In about 1 hour we came upon the Sampson narrows, and there, in a quiet basin, we landed, right in the midst of an unpleasant tangle of jack pine and dwarf willows. Hainsworth plunged ahead with a fervour and enthusiasm that revealed the old woodsman of the Pacific slopes. I am sure that he enjoyed himself; but I am equally sure that I did not. It did not last long; we soon struck—perhaps 500 ft. above the lake level—the end of the true left moraine of the Charlton Glacier: a hard, firm moraine ending with a perfect knife-edge, much too thin to walk along. Blondin would have had his hands and feet full! We had to manage to scrape some equilibrium, until we reached the level of the first ice plateau, whereupon we gladly descended, perhaps 100 ft., to the compact, hard black ice covered with rocks.

The N. face of Mt. Charlton, from the lake, is entirely an ice problem—and a good one. In the middle part there is a sharp rock that sticks out of the frozen sea. To its true right the glacier breaks into a maze of crevasses; on the other side the ice, with a breath-taking sweep, covers the great N.E. face of Mt. Unwin with a broken, glittering armour. We crossed the icefield to its far side, toward Unwin. The tops of the mountains were covered with a dirty, ugly mantle of grey; at intervals the wind brought puffs of mist. We were now at close quarters with the mountain's defence: a labyrinth of crevasses with a thin cover of fresh snow. The misty weather with the refracted light made the going slow and fatiguing, but always supremely interesting. We roped and started up. Leading, I stopped more than once with the ice-axe handle plunging without resistance into a green depth, whence came the muffled rumble of water. The course was extremely tortuous, but forced us inexorably more and more against the immense ice wall of Unwin, threatening to hurl down an avalanche. Earlier in the season it would be folly to attempt this route; but, on the other hand, it would be difficult to find another route on this side of the mountain. We scrambled up: practically without step-cutting, closed in a blinding world, with our eyes glued to the outline of the col between Charlton and Unwin. We came to the sharp rock, and we kept in the narrow trench between it and the wall of Unwin. The gully was partly filled with avalanche snow, making the going safer, if not easier. Past it, we found a steep wall of soft snow cut in half by a huge, gaping, black bergschrund. Right in the middle, however, it appeared somewhat narrower: there, avalanche snow had filled the gap. The passage was more awkward than difficult:

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a perpendicular wall of soft snow, over a lurking gap; the tracks we left were big as a hogshead. We scrambled over it by dipping arms, legs and face in the sopping snow. From there to the col it was a fatiguing ascent over a steep incline of soft snow on hard ice. At the col, rocky and covered with soft snow, we were greeted by a violent and freezing wind. We gazed down the S. face of Mt. Charlton; a dark perpendicular wall dropping forever into a white pit, containing a frozen lakelet. This drains into the Maligne Lake, of which we could see, under the clouds, a leaden strip. The col is just below the level of the top of Mt. Sampson. We soon left it and proceeded up toward the summit of Mt. Charlton by an easy slope that slowly tapered to a thin ridge, crowned with a beautiful corniche. We reached the top, a sharp snow hummock, in a blinding storm with a temperature of 48° F. (*ca.* 10,450 ft.). As if by tacit consent, Hainsworth started the construction of the cairn, and I returned to my diary and a sum-up of the day's struggle. The fight had been very keen, and the storm was now adding a touch of drama which at the time was totally unwelcome. We had hoped to gain much information about the peaks at the S. end of the lake, but in the mist, with perspective and details lost, Thumb, Warren, and Brazeau appeared as apocalyptic apparitions rather than future climbing prospects. We did not know names or topography, and that did not help. By the time we started down it was snowing hard—more than 2 inches of snow fell before we reached the lower glacier. There it changed to rain. But weather and the well-traced route made our homecoming a speedy one ($2\frac{3}{4}$ hours from the summit to the lake shores). A tragedy nearly marred the end of the day: we were running at good speed down the bare ice tongue, trying to keep warm; my cold hands failed to hold my pipe, and it rolled down, slid, fell into a water trough, disappearing into a fissure. We examined the situation: the fissure was closed at the lower end, and was perhaps 7 or 8 ft. deep, but too narrow to allow one to descend into it. After some search the pipe was discovered whirling in a pool, with the way out precluded by a rock encased in the crack. The rescue, rapid but intensely dramatic, was accomplished by enlarging the crack until I could lift the inanimate body with the ice-axe. But looking back, to the glacier slowly disappearing into ominous clouds, the sight of the threatening séracs and snow-covered crevasses made me clutch my pipe with a friendly meaning. We do not fear to risk everything on a rocky ridge

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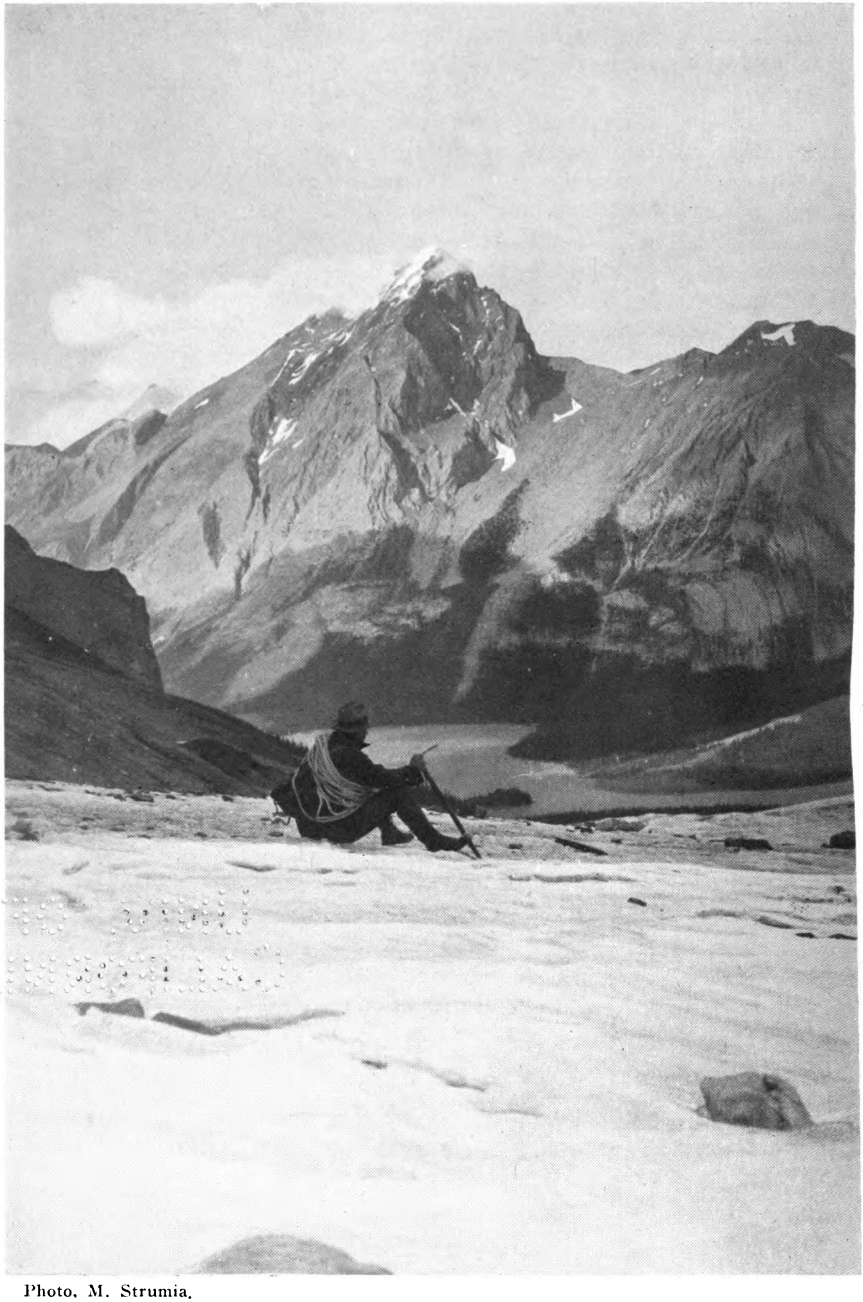

Photo. M. Strumia.

Mt. SAMPSON from the CHARLTON GLACIER.
(On left S.W. face and W. ridge.)

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or on an open mountain face, or up a glittering blade of ice; but death, lurking in the cold, leaden, and hidden crevasses is too hideous and repulsive. At 6 in the evening we were back on the shore of the lake, which we reached at a point below our morning landing, by following the glacial torrent to a sandy delta. We built a fire and began drying; it was not long before the friendly boat was bringing us back to comfort as The Thumb and Mt. Warren at the end of the lake were taking on reddish reflexes of fire under a grey canopy of broken clouds.

The greatest enemy of climbing is a comfortable hut or hotel and the most obvious alibi bad weather. We had both of them beyond cavil on July 8. Cold showers transferred the lake into a grey pond, closed in by slowly drifting fog and weeping evergreens. Yet, viewed from the window of the chalet, with the harmonies of a grumbling stove, recent memories and future plans blending with the smoke of the pipe, that dismal world was pleasant and introduced a contemplative mood which was not cheerful but not depressive. A thought of spending a similar day in the average tent, wet, cold, with the prospective of getting wetter and colder, made the present condition almost perfect.

We spent a profitable hour with Mr. Macklin, the local game warden, in learning names. That was as far as our knowledge of local geography went at the time.

In the evening it cleared, and in the perfect mirror of the still water ghostly apparitions of white somewhat dampened our hopes for the morrow. It was freezing cold when we came back from a boat trip over the lake, and during the night a stiff breeze swept the sky clear.

Next day, at 8.30, we landed on the long, steep rock slide coming from the W. face of Mt. Sampson. The day was to be one of pleasure: emotions in plenty but not too deep: difficulties never excessive, but affording almost continuous gymnastics: a climb interesting always, once dangerous on the steep flat slabs near the summit, with fresh snow covering the rocks, water trickling down and stone falls.

After the flower-strewn slide came a traverse to the right, to avoid a huge, perfectly smooth cuirasse of water-polished rock, insidiously rolling from a gentle slope to a perpendicular wall. The W. face of Mt. Sampson is full of these peculiar *plaques*: they follow in an upward sweep like the long rolls of a gigantic wave; between them are breaks affording a way either in straight-running, open couloirs, with large boulders, or in transversal cracks filled with loose stones.

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We felt the mood of the cold, sunny day and the variety of the rocks, and we wandered ropeless at a fast pace, as Hainsworth took cinema views, until, following an oblique line of climb to our right, we came upon flat rock *plaques* with a thin layer of fast-melting snow. Stones were falling from the summit ridge, perhaps 300 ft. above. We roped, and I started up a series of fissures which, with dry rocks, would have afforded an excellent warming-up exercise. We reached the broken ridge, about 500 ft. below the summit, at 12.40; the E. face of the mountain falls perpendicularly in a forbidding gulch of barren rock, and we went mostly on the W. side of the ridge, keeping midway between the tottering rocks of the edge and the smooth, snow-covered rocks below. The summit (10,000 ft.), which we reached at 1.45, is adorned with a beautiful corniche leaning to the E., and in a niche of it, sheltered from the wind, we enjoyed one of the best aerial surveys of the whole summer. For the first time we could see Mt. Brazeau, the whole massif of Mt. Warren, and the mountains of the W. and S. end of the lake. We made level readings and observations with the compass; we made sketches and took pictures; all my mental activity, that day, was diverted to the outer world. Perhaps a reaction to the previous day; perhaps forms and colour proved too much of an attraction; perhaps the climb was too filled with the joy of motion and not difficult enough to produce a reactive introspection. We left the summit at 3, and on the return got into more difficulties than during the ascent, as the snow was softer: in order to avoid the danger of falling stones, we attempted to cut down directly from the summit. The line of descent ran along a series of steep, narrow couloirs, filled with soft snow and loose rocks, and a series of narrow horizontal ledges. We kept always below the line of ascent, but the steepness and smoothness of the face upon which we were crossing gave us several anxious moments. At 5 we were in the couloir followed in reaching the ridge in the morning; there we unroped and sped down the unstable scree slopes and on to the flowery shores, to the waiting boat, at 6.15.

The next day, July 10, we made preparations to establish a camp at the S. end of the lake, whence we hoped to open our attack upon Mt. Warren. Somewhat vague information told us of a glacier almost reaching the water, or, according to others, actually pushing its way into the lake. It turned out to be over 2 miles from it!

Motoring up the lake was an uninteresting and slow affair,

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as the all too pampered motor developed some kind of a coughing fit, after which it would simply go dead. We were so consumed with curiosity as to what the S. end had in reserve for us that we did not actually take notice of anything before the Sampson narrows.

The lake widens again beyond the narrows, and the cliffs on both sides become more precipitous. We passed on our right a beautiful hanging glacier, and finally rounded a gigantic rock fortress raising its ruined battlements into the floating clouds 4000 ft. above the water: Peak Thumb.

After this corner the lake turns somewhat to the E., and it ends with low sandy shores at the opening of a short valley coming from the E.

Camp was established on the gravel flats of the Warren Creek, dominated by the precipitous walls of the N. peak of Mt. Warren. Nearby, a cold pool of spring water, the shore of the lake covered with dry driftwood, fewer mosquitoes than anywhere before; altogether an idyllic spot. Bill, a true woodsman, erected his shelter tent amongst the pines on a bed of moss. I preferred the open and set mine upon the gravel, and I can now truthfully say that each pebble left a deep impression on me! The stove was erected at the back of a rock; really only a piece of iron sheet, but it served its purpose well. We had no sooner set up our tents than it began to rain; we set off in a hurry to look over the approaches to Mt. Warren. This magnificent massif is a chain about 2 miles long, running from N. to S. It forms three peaks: one, the northern, rocky; the others, at the S. end of the chain, snowy. The E. face of the group is covered with a beautiful ice field, running to the valley with six tongues. It measures about 3 miles in width and a little less in length. But that day we did not learn all this; we only learned that about 1 mile from the lake the valley divides in two branches, one running N. and the other S. The latter ends with a morainic amphitheatre, with foaming torrents rolling over the brim. We felt that it was the best way to approach our giant, and so after a rainy night we set out at 6 A.M. on July 11. We moved rapidly along the true right side of the torrent, which sharply turns to the S. after receiving an affluent from its true right, which we crossed easily. In about 1½ hours we came to a point where the main torrent is joined on each side by a smaller stream. We were altogether deceived as to the position of the highest peak of Mt. Warren. We thought the rocky and the snowy peaks to be much closer than they really were, so we started up the

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true left confluent, and, after a short tussle up a rocky creek and a comfortable walk on a solid moraine, reached the ice. We commented upon the easy approach and plunged headlong into the middle of the first icefall. It was not difficult: there were many bridges, and with some cutting we made good progress. Above it we found ourselves in a snowy basin; a brief survey made us reach a sad conclusion: we were in a veritable trap. To the right, steep rocks with snow banks perched above; the ice below peppered with stones; in front, soft snow alternated with belts of perpendicular rocks with avalanche channels; to the left, a tremendous sérac icefall. Looking upon that situation now, it is evident that we should have returned to the moraine and attempted another approach; but we were convinced that Warren's highest peak lay exactly in front of us, so we attacked the séracs. It was, without doubt, the hardest thing of its kind that I have ever encountered in the Rockies. We had to make our way, with very laborious cutting, up perpendicular walls of ice, only to have the way cut off twice by huge transversal crevasses; finally a blade of ice, crumbling in several places, brought us past the bad place. But there in front of us was another large gap, filled with soft snow ending against a wall of ice perhaps 20 ft. high. There is such a thing as irritation in mountain climbing; no doubt it appears a rather foolish thing, but it occurs, and it occurred to me on that occasion. It is not so much irritation at the inanimate mountain as at our impotence in an unforeseen emergency. The wall was perpendicular for about 10 ft.; then it rounded up; the base sunk in the soft snow filling the crevasse. I cut steps in the wall as far as I could, hoping thus to be able to reach the upper rim. But once against the wall, on the first step, the simple weight of the body would throw me back. At each fall the soft snow bridge would give way, and soon one leg went through into a deep black hole. Now I had to stand farther from the wall; there was no other approach on either side of the bridge. Fortunately I still had enough sense in my madness to cut high up towards a huge ledge to which I pulled myself up. And so, in a last effort, with the aid of the ice axe, I finally crawled over the solid flat ice of the upper plateau. In front of us we had now a large snow basin. Beyond it, Mt. Brazeau, a majestic mountain of ice. The crossing of it, under a broiling sun with soft snow, in which we sank up to our knees at each step, was a matter of almost herculean fatigue. On such occasions Hainsworth usually led: he would have to sink

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Photo, M. Strumia.

Mts. BRAZEAU and WARREN from the N.

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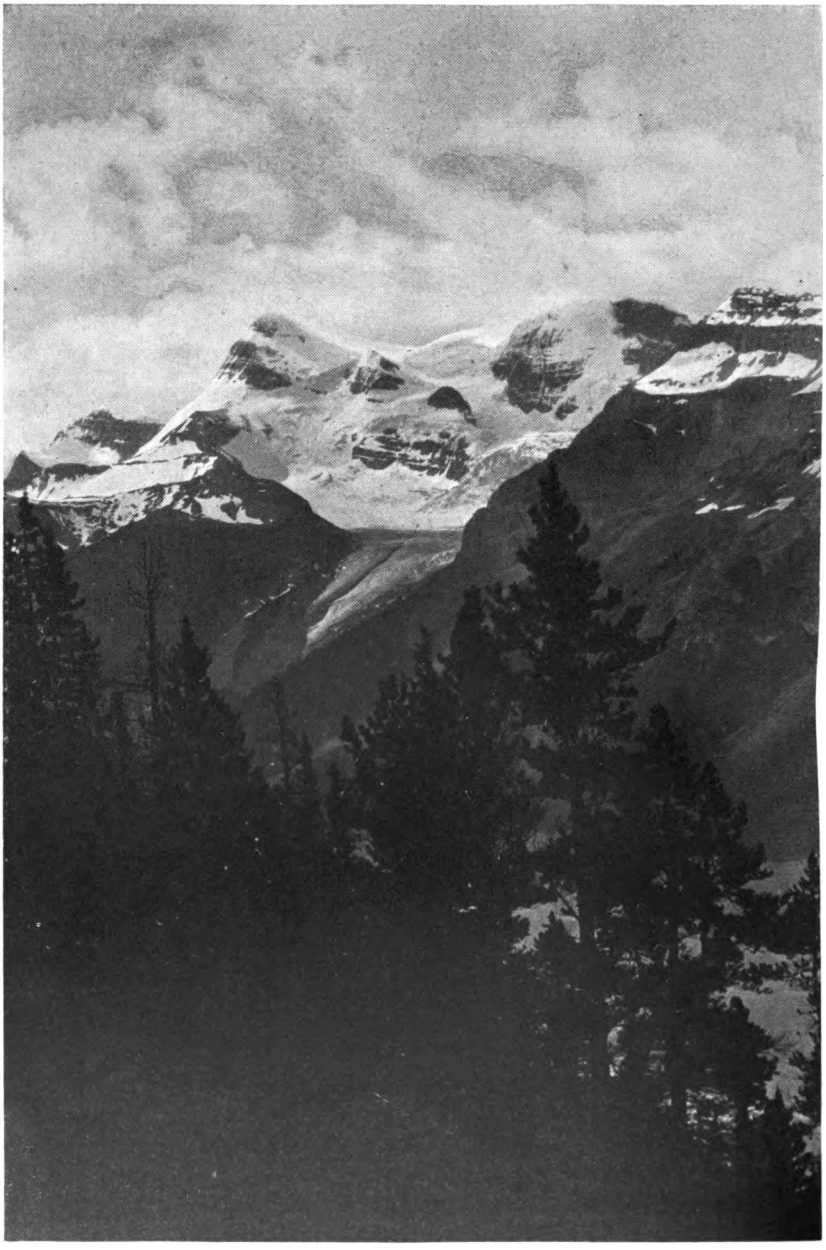

Photo, M. Strumia.

Mts. Charlton (left) and Unwin (right) from Mt. Sampson

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anyhow, as he is somewhat heavier than I am, and therefore it would save some energy for the good of the party! As we reached the S. end of the basin another one appeared, closed at the S. end by a snowy spur leading to the summit ridge. It appeared extremely steep, but we felt that, not being broken by rocky belts, a snow avalanche could not have serious consequences. By a long tramp in the soft snow we reached the spur about one-third the way up, above the partly open bergschrund, which we crossed over a bridge made by an avalanche. Just there the incline begins to swing upwards, and straight up we went. It soon became necessary to cut steps through about 5 or 6 inches of soft snow into the ice, a task which repeated itself about three hundred times and took a good hour. To our left there were several outcrops of disintegrated rocks, but the snow looked better. Toward the end the inclination of the snow became less: we could now go along without cutting, and shortly rested upon rocks of the final ridge. We realized now that the peak was not far from us, in a northerly direction. We followed the S.E. snow ridge that forms a huge corniche to the right and falls to the left with a magnificent rocky wall, and at 4 P.M. reached the top (*ca.* 10,800 ft.). Perhaps a quarter of a mile from us, another rocky peak broke through the final ice-cap of Mt. Warren: Hainsworth set his level upon it and found it to be several feet below us. We called this latter the Central Peak. Between the S. (highest) and the Central Peak there is an arête of ice and rock, broken by huge fissures and adorned with great corniches. On the other side towers Mt. Brazeau, a rounded snow-cone, not nearly as inspiring as the giant seen previously in the day. We were on the top for 1 hour; it seemed a minute. We took a little food, and made numerous observations with the level and the compass, but above all we admired. Maligne Lake is not visible: the Central Peak of Mt. Warren covers it. The S.E. face of Mt. Warren is fearfully repellent; but beyond it the world is immense; Mt. Brazeau, all the peaks around the lake, Forbes, the Lyells, Mt. Columbia, Alberta, the Twins, Clemenceau, Hooker, Ermatinger, Scott, Brussels Peak, Christie, Fryatt, the Ramparts; and then a violet infinity of peaks lost in the haze of the heat. The mind did not stop with the limited range of senses; it went beyond it, in the great hall of the past, and it was not long before only the body was sitting on the top of Mt. Warren.

That glorious hour flew away as a meteor; a cold wind brought our senses back to the pressing need of a prompt

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return. We trod our way back along the steep ridge: the steps were large, but to the foot slowly lowered, while the face pressed against the ice, they appeared miles from each other. It took us over 1 hour to reach the snow basin, but from there we cut down directly toward the lower portion of the icefield. The way appeared interminable, but a great deal easier than the morning course. We started down at a great pace, with that determination that narrows crevasses and makes of frail snow bridges solid highways. It is the reckless mood which may lead to one's doom, but also to a beneficial disregard of the value of life. We crossed the muddy, hideous, glacial torrent over a magnificent ice bridge and were on the moraine.

On the return journey the moraine is usually the place where we feel tired. The interest of the climb is over, the energy of desire is consumed, and we have only a remnant of our physical forces. That evening our mind was lagging back on the summit ridge, amongst the giants, while we dragged ourselves down the moraine and over a rocky wall to avoid a cañon below. We crossed a stream with a terrific current, and finally joined the morning trail. We were still distracted when we sat to our supper in the camp. But as the last light glimmered over the shivering water, our imaginations were pushed down by the dark night from their height of desire, and we stood in the darkness to hear the wind rushing down the conquered mountain to recount the glory of the day.

Next day we got up at 11 in the morning, and at that it was a great achievement! Almost immediately to the back of the camp opens a steep rock slide, mostly covered with creeping juniper and a mosaic of flowers. There are loose stones, too, but where the slope becomes dangerously steep we kept to the right, upon more solid rock. The progress was slow; we wandered up, collected flowers, took pictures; bathed in the mist of two silvery falls; we kept far enough from each other to be undisturbed and near enough to appreciate the finer things of companionship. Above the falls we sat by a cold pool and lunched. It was hot, silent, and clear. In front Mt. Warren dominated things and thoughts majestically. Above the falls we entered a rocky amphitheatre; a barren, uninteresting monochromatic world of loose rock. The amphitheatre is closed at the N. end by a low saddle, adorned by a thin strip of snow forming a corniche. We cut to the left, over huge boulders piled in great disorder; it was pleasing gymnastics that resolved some of the muscular stiffness and improved our kinetic euphorbia a great deal. We

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emerged, after a brief scramble up a snow slope, on to the E. rocky ridge of Peak Thumb. It soon turned into a comfortable snow highway, upon which is perched a disintegrated steeple of rock, well in view from the chalet. We arrived on the rocky summit at 5 P.M. (*ca.* 9200 ft.). It is one of the most aerial perches in the world. The W. face falls to the shore of Maligne Lake with two perpendicular drops of about 2000 ft. each, separated by a narrow plateau. The lake lay at our feet in both directions, but much of it was hidden by a lower N. spur of our peak. We were up in 6 and strolled down in 2 hours. We did not use the rope all day; and that night at camp, even in the midst of a lucullian supper, we were still in a contemplative mood.

What a camp that was: we had by now become familiar even with the forbidding buttresses of Mt. Warren; we had won it and it did not oppress us any more; we were becoming part of our world. At night in the tent the melody was even keener: the far pulsing of waterfalls blown by the high wind; the muffled rumble of the torrent; the murmur of the pines; the wild lashing of the lake against the sandy shores; and the petulant chatter of the brook. Occasionally rocks came crashing from the invisible ice-tongue down a fearful couloir that cuts Mt. Warren's most northerly spur, and filled the melodious silence with tragic echoes; then again the sound of water and wind.

Our last climbing day was one of colour and contemplation; our senses had by now rested enough to be more keenly appreciative of the outer world, and the valley that we explored that day was by far the best of all our journey. It was virgin, too, I believe, of human tracks.

On July 13 we left camp at 10 in the morning and proceeded up the Warren Creek to where the valley divides; there we plunged in the wood to the left, and slowly approached the true right bank of the torrent draining the last unknown massif of the group; that which we named Mt. Maligne. We met two cañons, the second one necessitating a rather unpleasant digression high over the steep wooded slopes, with a great number of windfalls and an unusual number of mosquitoes and other winged pests. We followed the true right side of the torrent; above the second cañon the valley opens gradually: we were now about 300 ft. above the level of the rushing waters which have cut their way deeply into the barren limestone of the bottom. A little above, the valley is closed by a high rock wall, with the black ice tongue of the Maligne Glacier just

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reaching its brim, whence a large muddy stream issues with a waterfall. We had followed right along a goat-trail, and could have picked enough wool to furnish our bed at the camp quite comfortably. The meadows of the upper portion of the trail could hardly be described, and they can hardly be admired unless you are there with plenty of time and the proper mood. Then just let the sun and the perfume permeate the whole body, as the eyes gaze with increasing wonder over the glittering Warren icefall. It comes down in long tongues dipping into the grey of the huge moraine, and rises majestically to cover Mt. Warren and the N. face of Mt. Brazeau. Marmots frolicked around, and a little later we came upon a herd of wild goats, eleven or twelve in all, with kids, walking peacefully over the soft green of rolling meadows. Leisurely they strayed up and joined another group of about the same number, and then moved upward at a slow pace, possibly to escape the pests becoming numerous on the lower heights. We chased them for a while with the cameras, then we sat down by a clear brook and turned again to the contemplation of the far icefield, and the nearby carpet of flowers. We were anxious to get a glimpse of what lay to the back of the ridge at our left. When we came upon it we realised that our conception of that territory was somewhat warped. In fact, we were not on the ridge which we expected to lead to Mt. Florence, but were separated from it by a huge snow basin. The ridge we were upon was actually the S. end of the Maligne group. The late hour advised us against attempting the long ascent to the highest peak of the Maligne group. We were anxious to make observations from as many points as possible, in order to complete our somewhat scattered notions about the geography of the region, so we decided that we should cross the snow basin and there divide: Hainsworth climbing Mt. Hawley and I climbing Mt. Florence. We did not rope during the whole day, as the climb did not offer any real difficulty. Mt. Florence, by the S.E. ridge, proved an easy climb, the only difficulty being a short snowy ridge connecting two peaks of almost the same height (*ca.* 9750 ft.). But whatever was lacking in sport was made up in the great world of silence and giants which closed around me on the summit. After building a cairn, I remained there long enough to see the sun setting at the back of huge billowing clouds above Mts. Unwin and Charlton, the lake below taking on crimson tints as a vague fog slowly covered the far end of the Maligne Valley. Meanwhile Hainsworth had climbed Mt. Hawley (*ca.* 9850 ft.), a rocky peak N.E. of Mt. Florence. At 5.45 only, I left the

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summit and returned to meet Hainsworth in the snow basin and resume the tramp in the soft snow. Returning to the S. ridge of Mt. Maligne, we glissaded down steep slopes, and thought we could reach our trail more directly by cutting down into the gorge below; we were soon stopped at the brink of a huge cliff, where we had to turn around, climbing wearily for another half-hour. Then we just strolled down.

Near one's journey's end comes a feeling that we have rushed over it too much; that, indeed, in the anxiety of covering too much ground, of learning details of a region, of seeing new things, we actually tramp past the finest ones. And so, again, that evening we became suddenly silent and once more introspective; and when we reached camp that night, almost in total darkness, we felt that our spiritual maturity in mountain climbing was still far away. It rained heavily that night and next morning, and the mountains were all veiled when the boat called for us about noon. We came down the lake and spent the rest of the day at the chalet. Phillips' great kindness helped our return trip from the Medicine Lake to Jasper, on July 15, but we should have been lost for transport between Maligne and Medicine Lakes had not Joe Weiss, genial mountain-lover and photographer, helped us with our rather heavy loads to Medicine Lake. There, more rapid means of locomotion took us back to Jasper, where we had a hard time to preserve some of the spell of the high hills through the rather noisy welcome of civilization.

Notes.

All ascents made in the Maligne Lake district are first ascents.

Several of the names used in the present article are new, and have been duly submitted for approval to the Canadian Geographical Board.

The bibliography of the region is well reviewed in the article by Mr. Palmer ('A.J.' **36**, 93–115).

The Kebnekaise District, Sweden.

By H. L. JOSELAND.

IN view of the extent of the mountain area in Swedish Lapland, it is strange that, with the exception of an article on Sulitelma in Vol. **20** of the Alpine Journal, little or no information appears to be available about it in English.

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Of the three main groups into which the Lapland mountains may be divided, one is now, thanks to the work of the Svenska Turistförening, easily accessible, and as this contains Kebnekaise, the highest peak in Sweden and indeed in Europe N. of the Arctic Circle, a few notes on this district, or at any rate on that small part of it in which the highest peak is situated, may be of some interest, even if they contain no 'record of mountain adventure.'

Kebnekaise itself was first ascended in 1883 by M. Charles Rabot of Paris, and an account of his ascent appeared in his book, 'Au Cap Nord,' published in 1898. A translation into Swedish of the chapter describing the ascent is given in *Ultima Thule*, the Lapland Alpine Club's Årskrift for 1929. The peak itself was approached from the W. over what is now known as Rabot's Glacier, and the top reached by a climb up steep rocks where the party were in constant danger from falling stones. The story of the expedition is very interesting, but is too long to be included here. Their observations at the top were cut short by the cold. As M. Rabot says (the original French is given in a footnote in *Ultima Thule*): 'Quand on est simplement vêtu d'un caleçon, la plus belle ardeur pour les observations géographiques se refroidit rapidement par cette température.' Anyone who has been on a Lapland peak on a cold day can well believe it.

Nowadays one takes the train from Stockholm to Kiruna, the mining town of 11,000 inhabitants that has grown up since the year 1900, some 100 miles N. of the Arctic Circle. The trains are comfortable, the sleeping accommodation they provide is good, and when the restaurant car leaves the train a halt is made for a meal at convenient times.

A word of warning to beware of Boden had better be given to any who wish to travel N. by road. Boden is a military headquarters where foreigners are not wanted. Two young Englishmen, who were this year motoring or proposing to motor through this little town, were pursued by a police car and arrested on arrival. They were told that their car would be detained at Boden till authority for its release could be obtained from Stockholm, which would require at least a week, and in the meantime they were sent to the railway station to wait 5 hours for the next train that would take them elsewhere. There was a picture-house in the place, and thither the travellers went to pass the time. But the building happens to be outside the limits to which foreigners are restricted, and they were promptly pursued by the police, brought out, and

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sent back to the railway station. When I last saw them a week later they were on their way back to Boden to try to recover their car. I do not know whether they succeeded.

At Kiruna there is an excellent station hotel, where also provisions can be got for the 2 days' journey to Kebnekaise. From Kiruna the midday train brings us in 15 minutes to the little station of Kalixfors, from which a charming walk of 2 or 2½ hours, through woods of dwarf birch trees, leads to the little village of Kaalasluspa, on Lake Kaalasjärvi, where twice a week a little motor boat, provided by the Svenska Turistförening, takes travellers to the Lapp village of Nikkulahti. The journey from Kaalasluspa to Nikkulahti, along a chain of lakes, takes about 5 hours, and is delightful in fine weather. The navigation is occasionally very tricky, but the boatman, Peter Haugli of Nikkulahti, steers the boat with great skill among the sunken rocks. At the end of the first 9 miles, passengers have to walk a mile or so through the woods while the boatman gets the boat through the worst of the rapids met with on the way. The banks from this point are well wooded, and the little red houses of the Lapp settlements nestle charmingly amid the dark green of the trees.

At Nikkulahti, a Lapp village inhabited by about half a dozen families, the night is now spent in a wooden building of one room, of good size, well equipped with a stove, cooking utensils, unlimited firewood, and comfortable sleeping accommodation. It belongs, I believe, to Peter Haugli. At any rate, on the occasion of my first visit, when it was quite new, Peter Haugli, who has a vein of humour, told me that he had heard an Englishman was coming and, thinking the old 'kåta' not good enough, had put up the new building for his benefit.

On that occasion I shared the accommodation with four Swedish young ladies, who insisted on doing all the cooking and washing up, and provided me with various luxuries not included in my modest parcel of provisions. This year the other occupants were four very pleasant young German mountaineers from the University of Berlin. They had no coffee, while I had a great deal, owing to my inability to make it understood at Kiruna that I only wanted a little; but they had excellent materials for soup, so that again we pooled our resources and I had once more the best of the bargain.

From Nikkulahti a Lapp, Sarri by name, takes us a pleasant walk of an hour and a half through more birch woods,

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where reindeer may sometimes be seen, to another lake (Ladtjojaure), where a still smaller motor boat is kept. This lake is a beautiful spot lined by wooded slopes, behind which rise rugged cliffs, and to the W. is a charming view of Kebnekaise with its outlying buttresses, Singitjåkko, Tuolpagorni and Rullevare.

The boat follows the winding Kalix River beyond the end of the lake, and this year we disembarked near Sarri's country house—his town house is at Nikkulahti—where he entertained us to coffee before we began our final walk, which follows the bottom of the valley (Ladtjodalen) in a direction almost due W. About half an hour before reaching the Tourist Station we ascended somewhat to the right and crossed by a little bridge the torrent descending the Tarfala Valley from the N.

At the Tourist Station, which is about 2260 ft. above sea-level, it is possible to live in comfort for some days with beds, table-d'hôte meals, and provisions available for purchase for expeditions. Crampons, ropes, and ice-axes may also be borrowed, and there is usually a lady in charge who speaks English. The post comes and goes twice a week, and an outbuilding, now in course of construction, will, I believe, contain a bath.

Immediately to the N. of the Tourist Station slopes of grass and stones rise to the stony plateau of Kebnetjåkko, and a walk in a N.W. direction over or round a lower top leads to the highest point (5800 ft.). From this point a good idea of the topography of the district may be obtained.

Before us rises the mountain wall that stretches 2 or 3 miles from S. to N. and separates the glaciers on the W. from those on the E. From the S. peak of Kebnekaise (6965 ft.), directly in front of us, the snow or ice ridge narrows to what is in places little more than a knife-edge, and extends a short distance to the slightly lower N. peak of Kebnekaise. Thence it runs rather to the E. of N. and descends very steeply to Halspasset, rising again to a peak, Kebnepakte (about 6560 ft.), and descending once more to the lowest point in the ridge N. of Kebnekaise, Stora Tarfalapasset, where the ridge may be easily crossed.

From the snowfield at the base of the E. cliffs, four glaciers descend, of which one, Björling's Glacier, lies to the S. of Kebnetjåkko. The three most northerly extend in an easterly direction to the Tarfala Valley already mentioned. Of these three the most southerly, Storglaciären, 2 or 3 miles long and about ½ mile wide, lies at the foot of the N. precipices of Kebnetjåkko, and is separated from Isfallsglaciären

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Photo. Svenska Turistförening.

E. face of KEBNEKAISE; higher S. Peak to left; lower N. Peak to right.

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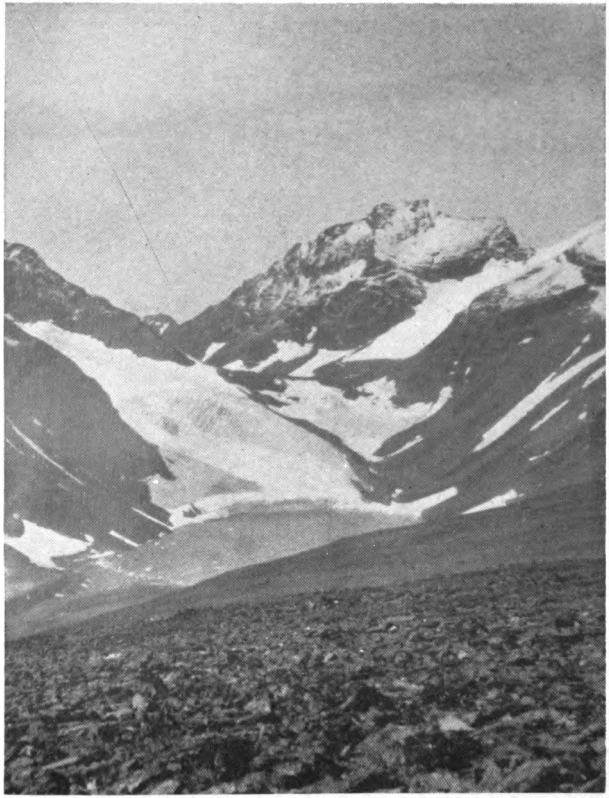
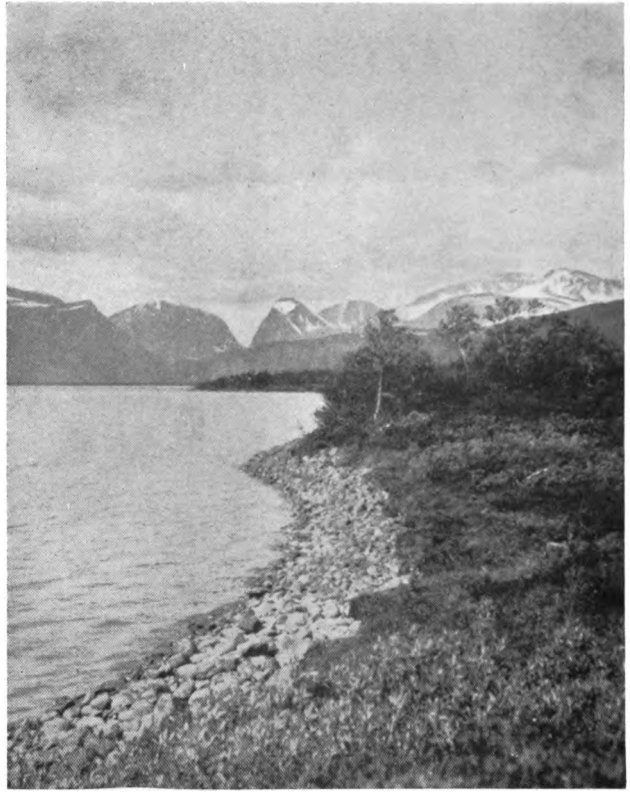


Photo. H. L. Joseland.

KASKASAPAKTE with TARFALA LAKE



Photo, H. L. Joseland.

LAKE LADTJOJAURE.

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by a rock ridge, the South Klippberg; while between Isfallsglaciären and the Kebnepakte Glacier, the most northerly of the three, is another rock peak, the North Klippberg. The Kebnepakte Glacier descends about 1000 ft. to the Tarfala Lake, above which the ice cliffs rise to a height of 60–70 ft., and into which masses of ice constantly fall, forming a Märjelen See on a rather larger scale and in even more striking surroundings.

From the N. of Stora Tarfalapasset three peaks rise from a ridge, of which the general direction is rather N. of E., Kaskasapakte (6676 ft.), Liljetoppen (6398 ft.), and Kaskasatjåkko (6811 ft.). East of the last-named peak is a col from which a glacier descends to the neighbourhood of the Tarfala Lake, and on the E. side of the col rises a summit (Tarfalatjåkko). From the Tarfala Lake the Tarfala Valley runs almost due S. for 6 miles or more, and is the one through which flows the torrent crossed by the traveller shortly before he reaches the Tourist Station. It is into this valley that the three glaciers, Storglaciären, Isfallsglaciären, and Kebnepakte, descend, producing a striking Alpine effect, reminding one of the three icefalls that descend to Stein from the snow plateau below the Sustenlimmi.

A walk up this valley from the Tourist Station is well worth taking. From the lake it is possible to return on the W. side of the valley, mounting Storglaciären, a fine crevassed glacier well worth a visit, and thence reaching the plateau of Kebnetjåkko, either by a fairly steep snow couloir, as a Lapp, Enok Sarri, and I did on a day when we had been turned back from Kaskasatjåkko by bad weather, or by steep and stony slopes at one of two or three possible points.

But a still finer view of the whole of the ridge, Vargryggen, from Kebnekaise to Kaskasapakte, is obtained by mounting the ridge to the E. of the Tarfala Valley and following it for 6 or 7 miles to Tarfalatjåkko. It is from a point on the flank of this ridge that the photograph showing Kaskasapakte and the Tarfala Lake was taken.

The ordinary tourist route up Kebnekaise is toilsome and uninteresting except for the views obtained on the way. On the occasion of my first visit to the Tourist Station, I was out of training and tired with the exertion of carrying a heavy rucksack, which becomes a laborious business when one is well over sixty. The morning after my arrival was wet, but it cleared up somewhat after midday, and a party starting in the early afternoon for this ascent persuaded me to join them, after a vain attempt on my part to get someone to take the

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more interesting 'östra leden' with me. We trudged along westwards past the foot of Kebnetjåkko at an alarming pace, and turned up the valley N.W. of Tuolpagorni, the conspicuous and striking peak shown in the centre of the photograph of the lake (Ladtjojaure). Down this valley flows the torrent from the little Kitteldal Glacier, and the crossing of this stream to the right bank and back to the left to avoid some rock was the most troublesome part of the expedition. Had I realized the reason for it I should certainly have scrambled over the rock in preference, as, in fact, we all did on the return journey. Higher up we gained an upland valley known as Kitteldalen, with the tongue of Björling's Glacier high up on the right, and a low wall of rock rising from the small Kitteldal Glacier and seeming to offer an obvious and direct route to Kebnekaise. This wall has indeed been climbed once by a Swiss, G. A. Baumann, but this turned out to be a very difficult and somewhat hazardous undertaking which, as far as I know, has never been repeated.

The route now adopted after the torrent is once more crossed, this time by one of the snow patches bridging the stream, mounts W. to the saddle between Tuolpagorni and Rullevare, seen behind and to the right of Tuolpagorni in the Ladtjojaure photograph, ascending or skirting a considerable snow slope, which provides an excellent glissade of some hundreds of feet for the return journey. Thence the ascent of the stony slope of Rullevare, and a corresponding descent on the other side, bring us to the foot of the long slope that rises some 2000 ft. to the final snow or ice cap of Kebnekaise, forming its S.W. face. On the occasion in question the whole face was covered with snow, which made the going easier than would otherwise have been the case. The veteran of the party found it hard work as it was. The ice of the final peak was also well covered with snow, and the top was gained without step-cutting at about 8 P.M. It consists of a curving ridge of no great width descending pretty steeply on both sides. The view from the top gave one some idea of the extent of this mountain country. Only eastwards did one see anything but rock, ice, and snow.

A better route to the top, known as 'den östra leden,' is very direct and not difficult, but is not to be recommended to inexperienced tourists when there is much snow on the rocks.

Of the other peaks in the district the most striking is Kaskasapakte, which may be seen in the photograph rising behind the Tarfala Lake. This peak appears to have no really easy line of ascent, unless the long ridge rising from Stora

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Tarfalapasset is easy. The writer does not know whether this has been climbed. The first ascent was made by the S. ridge, which seems to have afforded a very interesting climb, but one difficult and very dangerous from falling stones, at any rate in its lower portion. Various attempts have been made to reach the summit from the N.E. The climbing is difficult and exposed, and so far no one has succeeded in completing the ascent. The complete traverse from the N.E. to Stora Tarfalapasset will, when it is accomplished, provide one of the finest expeditions in the district.

Another climb as yet uncompleted is the direct ascent of the N. peak of Kebnekaise from Storglaciären. The rock face has once been ascended, but on that occasion the final snow or ice defeated the party.

The complete traverse of the two Kebnekaise peaks from N. to S. has been made from Halspasset. This year an attempt, by the four young Germans already mentioned, to traverse the peaks in the reverse direction was foiled by bad weather.

What has been dealt with here is only a small section of the whole Kebnekaise group. To the N. there are many peaks, some of them still unclimbed. One new ascent has in fact been made there this year, and is said to have been of considerable difficulty.

So far nothing has been said of the Sarek district, and this must be dismissed in a few words as the writer has no personal knowledge of it. The group is the most extensive and the wildest of the Lapland mountain areas, containing over 100 glaciers and many peaks. But it is difficult of access. Herr Erik Drougge, the secretary of the Svenska Fjällklubb, writes that 'there are no huts, no bridges over the rivers, and provisions for many days must be carried.' The district is best known by the remarkable work done in it by Professor Axel Hamberg, begun at a time when it was almost unknown except to the Lapps. Captain H. N. Pallin writes to me: 'He is certainly the most prominent alpinist of Sweden. He has, for instance, made the first ascent of forty-six different peaks in the Sarek mountains, among them eight peaks of over 1900 m. His scientific work in that part of Lapland began in 1895 and is still being continued. He has erected five observation houses in the Sarek mountains, among them the Porte-Observatorium (1883 m.), the highest situated dwelling in Scandinavia. . . . He was one of the collaborators of A. E. Nordenskiöld, the explorer of the North-East Passage, and accompanied him during his great expedition to Greenland in 1883.'

A tribute to his notable work needs no apology.

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Mount Kenya.[1]

By P. WYN HARRIS.

MY friend, Mr. E. E. Shipton, arrived in Kenya Colony towards the end of last year, and it was only after some difficulty that we arranged to make an attempt on Mt. Kenya in January 1929. I obtained local leave and everything appeared to be in order when a plague of locusts invaded the country, and they who passed through Nairobi were seized, armed with locust-destroying apparatus, and sent into the wilderness to kill. It happened, however, that when I arrived in Nairobi either the Government or the locusts were becoming discouraged, and the wary seeker after leave could, with much cunning, slip through the net set for him.

We met on December 31, together with G. A. Sommerfelt, whom we had invited to join us at Nairobi. A heated six hours of purchasing ensued in the Indian bazaar, and at 1 P.M. we set off in a half-ton lorry for Chogoria Mission at the foot of the mountain. We had on board sufficient food for sixteen days, a Whymper tent, sleeping bags, lamps, cooking pots, an axe and machete, tropical as well as warm clothing; also all the usual Alpine equipment.

The distance to the Mission from Nairobi is about 160 miles, and towards evening we arrived at the Government station of Embu, where 400 lbs. of mealie meal were added to our already overladen lorry. Just as night fell we stopped at a small Indian trading centre to fill with petrol, and it was unfortunate that we did so. The road from thence, on its way north to the frontier, skirts the eastern foothills of Kenya and winds its way in and out of the forest, crossing the many streams by means of wooden bridges. The Indians told us most harrowing tales of unfortunate lorry drivers delayed on the road after dark. It appeared that elephants made a habit of drinking at one of the streams and interfered with those who passed on their lawful occasions. We were sceptical as we had passed that way before, but the tales were more than enough for our native driver; he considered that his day's work was finished. It was rather a dilemma, as to put up for a night would mean one day

[1] Cf. *A.J.* **20,** 102–10, for the first ascent of Mount Kenya, Illustrated.

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less on the mountain, and we had few enough as it was. However, Sommerfelt solved the problem by diving to the bottom of the lorry and bringing to light some pieces of a rifle which he proceeded to screw together. As a rifle it had one advantage—it looked dangerous—and it calmed our driver's fears; we set out once more. Except for a large grey boulder tastefully arranged in the middle of one of the rivers, which excited our driver's fears once more, we saw no dangerous game, and therefore the technique of avoiding elephant as a branch of mountaineering art has yet to be discovered.

Actually elephant and buffalo are fairly common in the Kenya forests, but according to native reports they move over to the other side of the mountain during the dry season. The previous time we had passed through the forest in January and February none of the elephant tracks seemed particularly fresh.

We arrived at the Government camp some two miles above the Chogoria Mission just before midnight, where we dined off plum cake, an unorthodox but fairly sustaining diet. Shortly after dawn we set about collecting porters, and after selecting twenty-two we discussed the question of wages. Half an hour's bargaining ensued before we arrived at the usual figure: one shilling per man per day; two pounds of mealie meal, salt and ghee for rations; each porter to have two blankets, which we agreed they should keep if they worked well. Actually, when we got to the top camp, we paid off ten of the weaker men, keeping the remainder to carry our equipment down. Each man carried between forty and fifty pounds weight, and the loads were as follows: Porters' food, nine loads; tent, one load; food for party, three loads; cooking utensils, stoves, lamps and fuel, two loads; equipment, bedding, clothes, etc., seven loads. From the above it would appear that we were travelling rather 'de luxe' and that with lightweight bedding and equipment the number of porters could have been materially cut down.

We broke camp at 9 A.M. on January 1, and our porters filed slowly into the forest. Mr. Carr, of Nairobi, has cut a track along which motor cars have passed occasionally and with some difficulty, and which now attains a height of some 12,000 ft.; he has also built a large cabin at 10,000 ft., just above the forest line, and another at some 15,000 ft. on the left bank of the Lewis Glacier; the top hut, now rebuilt, had been blown down when we made our attempt, and we were compelled to camp above 10,000 ft. The journey through the forest to the lower hut usually takes two days, the distance being some eighteen miles

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with a rise of 4000 ft., but, with a certain amount of pressure, we managed to persuade our porters to do the journey in one march, so that we arrived at the lower hut towards nightfall. The next morning we left the forest behind, and passing up the left side of the Nihhi Valley over country not unlike the top of the Little St. Bernard Pass, we attained in the space of three hours our first view of the peak some five miles away at the head of the valley. It had been our original plan to attack the S.E. face of the two peaks, that is to say, the face up which Sir Halford Mackinder made his ascent, but as we got nearer to the N.E. face and it danced temptingly before us in the sun, we worked out a possible route on the true left wall of the great couloir dividing the two summit peaks, Nelion and Bation. We therefore decided to make our first attempt on this face, and, camping that night at about 12,000 ft., early the next day moved our camp on to a ridge running N. from Point Lenana (16,300 ft.), so that we were directly in front of the N.E. face but some 900 ft. above and half a mile away from its foot. That afternoon Shipton and I crossed the foot of the Gregory Glacier, which descends from the col between Point Lenana and Nelion, and reached the actual foot of the N.E. face.

Our first difficulty was to effect a lodgment on the face; the great couloir overhung in places and was clearly impossible for the greater part of its length, but a smaller couloir to the right ran diagonally across the face and seemed to give promise of better things. It started some 300 ft. above the foot of the face and was guarded by steep ice-worn slabs. We spent the whole of a hot afternoon trying to get into it, and towards evening we solved the difficulty by a series of traverses from the right. We returned over the half-mile of moraine in the cool of the evening to find that Sommerfelt had pitched camp and had supper in readiness for us. He had sent our porters down to camp some 2000 ft. below with instructions to report in two days' time. The next morning we had intended to make an early start, but the cold proved too much for us after the heat of the plains, and it was not until 7 A.M. that we finally got going. The reconnoitred traverse to the foot of the couloir was steep and fairly difficult, but the rock was good. The sacks we were carrying proved too much for us in our untrained condition, and with one accord we left them behind at the end of the traverse. The couloir led us up by steep snow for some little distance and terminated in a steep rock wall; this, after one unsuccessful attempt, we climbed by means of a difficult chimney. We now found ourselves in a steep snow amphitheatre, the head of which over-

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Photo, G. A. Sommerfelt.

. . . "We attained in the space of three hours our first view of the peak, some 5 miles away." . . .

NELION and RATION. PT. THOMSON. PT. LENANA.

Photo, G. A. Sommerfelt.

From the 'Skating Pond.'

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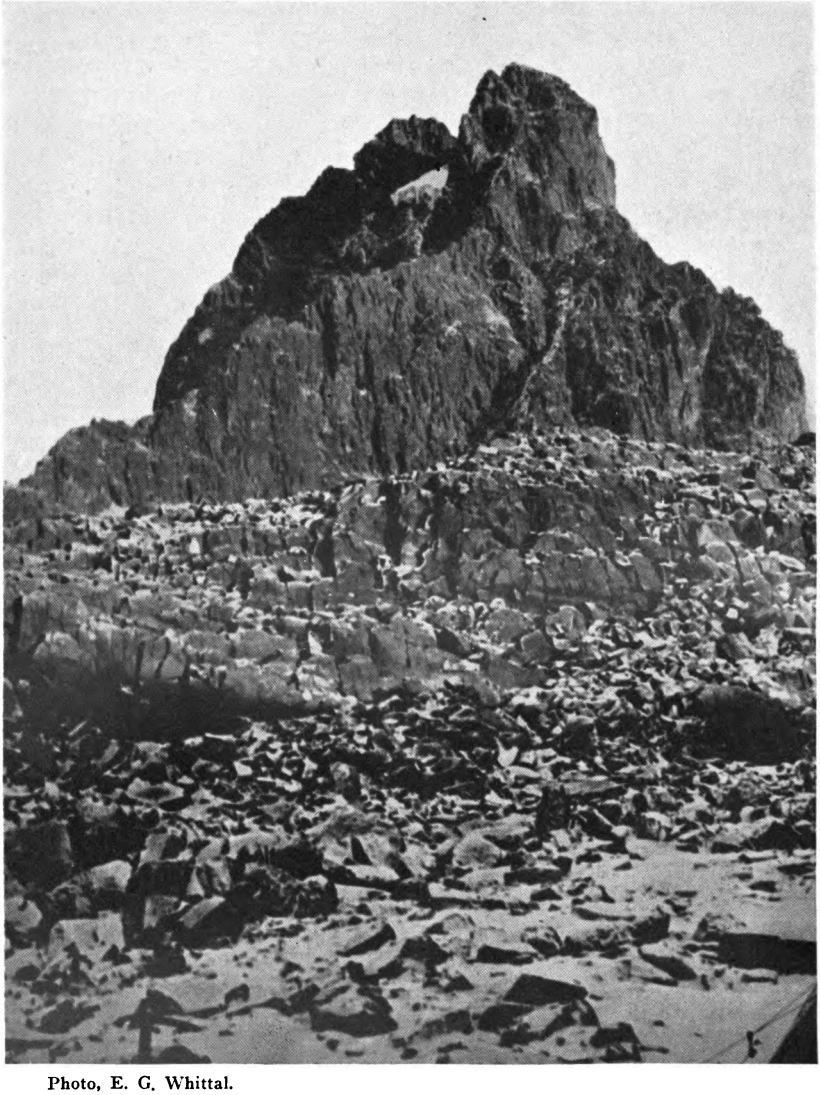

Photo, E. G. Whittal.

NELION and BATION
showing S. ridge of Nelion.

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looked the great couloir. The snow was in excellent condition and we attained a subsidiary ridge on the left of the couloir without great difficulty. The ridge after about 100 ft. of climbing landed us on the face some 400 ft. below the summit of Bation. But the way was barred by a smooth wall about 80 ft. in height and quite holdless except for a repulsive-looking crack. The time was now 2.30 P.M., and as we were beginning to wonder what the effects of a tropical sun would be on the snow slopes below us we decided to return. This we did, and reached the foot of the rocks shortly before dark. We were not properly acclimatized and felt the return across the moraine acutely; the 900-ft. drag up to camp seemed interminable, and it was with no small satisfaction that we crawled into bed.

We decided to make an attempt on the S.E. face before again attacking this face; we therefore called up our porters and skirting round the eastern flank of Point Lenana arrived on the left bank of the Lewis Glacier, which descends from the col between Point Lenana and Nelion on the opposite side to the Gregory Glacier. It was at this point that Mr. Carr had built his second hut, then in ruins, and the spot is remarkable for a small frozen ice-barrier lake generally known as the 'Skating Pond.' Across the Lewis Glacier Bation and Nelion tower up, and although on this side they are little more than 12,000 ft. in height, they present a far more impressive view than the N.E. face. The S. ridge forming the right bank of the Lewis Glacier has been attempted several times by different parties, and soon after midday Shipton and I crossed the glacier to look at it. After moderate climbing for some 200 ft. the ridge narrowed to almost a knife-edge, at the end of which a blunt nose overhung for about 40 ft.; this we were unable to turn on either side, but careful peering round the corner gave a faint hope that we might be able to force the Lewis Glacier face and so attain the S. ridge above the overhang. We returned in the dusk feeling far from confident that we could force a route up any part of the southern side.

The next morning, January 6, we two left camp at 7.30 A.M., and after an improvised breakfast set off once more across the glacier. Starting almost underneath the overhang we traversed upwards and to the right over steep and difficult rocks to an almost vertical corner which we passed with some difficulty to a platform at the base of a steep chimney. We were surprised and heartened to find in its depths a rope of no small antiquity. Subsequent inquiries have thrown no light as to whom it belonged, and it is probable that Sir Halford Mackinder used it

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in his descent. An awkward chockstone was the chief difficulty in the chimney; this overcome, easier rocks led us on to the ridge some way above the overhang. A short distance and the ridge abutted against the face of Nelion: a large gendarme marks the end of the ridge, and it was with some labour that we climbed a crack to the gap between it and the face. From this point two hanging glaciers lead round the S. face of Nelion to the gap between the two summits. Sir Halford Mackinder attained the summit of Bation by traversing round these slopes; they were very steep, and the black ice gleamed in the sunlight to such purpose that we were unanimous in attempting the rocks of Nelion before committing ourselves to the ice slopes.

Shipton led off along an exposed ledge to the right and proceeded up an insecure and unpleasant-looking crack. He required more than 60 ft. of rope, and the step was by far the most nervous and difficult part of the whole climb. There was a large stance at the top of the step, and the next 100 ft. led us to an *impasse*. The only exit ran downwards and to the right along an exposed traverse to a shallow depression in the eastern face of Nelion: this passed, three short steps led us to the summit of Nelion some 200 yds. distant from and 40 ft. below Bation. The descent to the gap between the two peaks, appropriately called 'The Gate of the Mist,' took us some time and we did not arrive on the summit of Bation until 1.45 P.M. No trace of Sir Halford Mackinder's ascent could be found, but his photograph of the summit blocks was still recognizable, only one or two stones having shifted. Having built a cairn, we left the summit at 2.15 P.M. and returned over the same route. In two of the more difficult places we came down on a doubled rope and arrived at the foot of the rocks at sunset.

On January 8 we repeated the ascent together with Sommerfelt; the weather was perfect, and from the summit of Nelion we were able to see Kilimanjaro, over 250 miles distant. On our descent that evening we met Miss V. de Watteville, who, with eight native porters, had come up to the 'Skating Pond' camp. She had seen us on the peak during the day and very kindly crossed the glacier to meet us at the foot of the rocks with food and hot tea.

The next day, in company with Miss de Watteville, we wandered round the foot of the twin peaks and examined the W. side. There would appear to be several routes worthy of attention on this side. That night the weather broke hopelessly, and we descended to Chogoria Mission, where, after a wait of two days, we caught a lorry to Nairobi.

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Photo. G. A. Sommerfelt.

N.E. face of NELION and BATION from first high camp.

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Note on the Southern Aiguille d'Arves.

In 1926 three members of the C.U.M.C. (Messrs. E. G. H. Kempson, L. R. Wager, and J. L. Longland) climbed this peak by the more usual S.W. face route from the Col Lombard to the Brèche Supérieure, thence ascending and descending by the 'Mauvais Pas' and following the route of our ascent back to the Col Lombard. Neither on this occasion nor two years later, when L R. Wager and the writer revisited the mountain, was there a fixed rope on the 'Mauvais Pas,' although a big iron-shod rope loop and a piton at the top of the step facilitate descent on the doubled rope. We were informed at the Rieu Blanc chalets that the guides usually place a rope there after the first ascent of a season and remove it at the end of the summer, but I have no confirmation of this. As Monsieur Montandon points out in his note ('A.J.' **40,** 402) there is a small and useful belay at the foot of the 'Mauvais Pas.'

On July 20, 1928, in the course of an ascent of the three Aiguilles d'Arves (mentioned elsewhere) we again arrived at the foot of the 'Mauvais Pas' by the Col Lombard route. This time we decided to try one of the variation routes and avoid the ascent of the 'Mauvais Pas.' We followed the little ledge at the foot to the right, N.E., and beyond and slightly upward when it had given out (a total of some 60 ft. to the right of the 'Mauvais Pas'). Then we struck directly upward, and a little back to the left, joining the S. ridge about 80 ft. above the 'Mauvais Pas.' The route was marked at rare intervals with arrows in red paint or red lead, and follows exactly the description of the *Corra* route in Commandant Gaillard's 'Les Alpes de Savoie' (Vol. III, p. 50). If the red marks are those made by M. Thorant during his solitary ascent in 1894,[1] then Mr. Coolidge's assumption (*Central Alps of the Dauphiny*, 1905, p. 30), that M. Thorant used the *Rodet* variation, is incorrect. On our ascent the leader wore boots, and the climbing, though exposed, is not exceptionally difficult; there is no need to use *Kletterschuhen*, as Dr. Wilson might seem to imply ('A.J.' **40,** 20).

We descended by a *rappel* down the 'Mauvais Pas,' and regained axe and rucksack at the Brèche Supérieure. From there we descended the E. face of the Aiguille by the *Corra* route (I have marked the descent in the accompanying illustration, taken from *La Montagne*, March 1928). It will be seen from this photograph that Dr. Wilson in his drawing ('A.J.' **40,** facing 15) has somewhat

[1] This is very unlikely, as the marks were already faint in 1897. —*Editor.*

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Photo, P. Helbronner.]

E. Face of S. Aiguille d'Arves.

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misplaced the *Corra* route, sketching it in some distance too far to the right. It would appear that the route marked by Dr. Wilson as that of the late Mr. Raymond Bicknell's party is also the *Corra* route, except that where Mr. Bicknell was forced to traverse back, left, into the couloir owing to iced rocks, the normal route (and that which we followed on our descent) keeps well away to the right (true left) of the couloir up easy slabs. If a party keeps in the couloir, as Mr. Bicknell's had to, it soon becomes almost impossible to traverse out to the right again, owing to a belt of very steep boiler-plate slabs separating the couloir from the easier ground. I have shown the 'La Montagne' photograph to Mr. Peter Bicknell, and he agrees that the route I have marked is substantially that which his party was attempting to follow. The descent of this route took our party just 65 minutes from the Brèche Supérieure to the Glacier de Gros Jean, and had it not been for the exceptional state of the rocks, would not have taken Mr. Bicknell's party long to ascend. Thus it may seem that Dr. Wilson's comment should be slightly modified. ['It was doubtless in ignorance of the very formidable nature of the N.E. face that Mr. Bicknell's party started on what they probably imagined would prove a fairly simple climb up to the "Mauvais Pas"' ('A.J.' 40, 16).]

Commandant Gaillard's explicit directions ('Alpes de Savoie,' Vol. III, pp. 49, 50) show clearly the coincidence of Mr. Bicknell's route (except for its upper part) and our own route with that of Signor Corra. His remarks, and the photograph I include, show also that the *Corra-Bicknell* couloir does *not* lead up to the Brèche Supérieure, as would appear from Dr. Wilson's drawing. The photograph shows that this couloir splits into several branches in its upper section, one of which certainly *does* go to the Brèche Inférieure, as Dr. Wilson has drawn it. It is a second and distinct couloir[2] that runs from the Brèche Supérieure to the glacier: this is almost hidden in the photograph, but is shown by the dark band of shadow running up from the left-hand corner of the highest bay of the Glacier de Gros Jean. It is extremely steep in its lower section, its true left wall being the tremendous undercut slabs falling directly from the summit of the South Aiguille.

We found that these two couloirs were quite distinct, being separated by a great rock bastion that runs down further into the glacier than any other part of the Aiguille. Our observations are

[2] But the far better photograph—showing more snow as on the date of Dr. Wilson's descent—by M. Piaget in *La Montagne*, 1910, facing p. 344, shows clearly that the 'Bicknell' couloir *does* run to the Brèche Supérieure. Sir Joseph Napier identified on this (Piaget) photograph the place of the accident as two-thirds of the way up the extreme left-hand couloir. M. Piaget's photograph is 'snapped' obviously from a point further to the N.E. than the one reproduced here.—*Editor.*

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confirmed by Mr. Coolidge: 'Follow the Col de Jean Jean route over the glacier to the foot of the S. Aiguille, and thence mount the couloir and its left-hand branch. Do not (as for the col) bear across this couloir to the left, but mount straight up it (*or by its left bank*), aiming at the *gully descending from the westernmost of the notches at the S.E. foot of the Aiguille*' (*i.e.* the Brèche Supérieure—I think the westernmost of the notches must be the Brèche Supérieure, because: (1) The arête bearing all these towers and notches runs from the S.E. in a N.W. direction towards the peak, and therefore the *westernmost* notch should be the *highest* notch, *i.e.* the Brèche Supérieure; (2) in the Gaillard note, just below, I take 'le profond couloir' which he states is descending from the Brèche Supérieure to be identical with 'the gully descending from the westernmost of the notches which the ordinary route from the Col Lombard attains.' The italics are mine.—*J. L. L.*) So, too, Commandant Gaillard, who, after describing the route in, and on the right of, the *Corra-Bicknell* couloir, mentions that one reaches and eventually crosses this second couloir, just below the 'Mauvais Pas': 'En quelques mètres, on atteint le profond couloir qui descend de la Brèche Supérieure et plonge au-dessous sur le glacier.' Dr. Wilson has very naturally, after an absence of some years, confused the two couloirs, and assumed that it was by the horribly steep couloir (as he says 'the couloir being like a waterfall between nearly vertical cliffs') that Mr. Bicknell was forcing an ascent. (See 'A.J.' **40,** 18, and note 6.) If Dr. Wilson's own route in the descent had really been on the face to the right (or N.) of the terrific Brèche Supérieure couloir, he would have become involved in the impossible overhangs (shown in deep shadow at the bottom of the face under and to the N. of the summit in the photograph) of the lower N.E. face close to the Col de Gros Jean. It is more likely that Dr. Wilson has telescoped the two couloirs together in his drawings and description, and that he is quite right when he says 'I gather that Signor G. Corra's ascent corresponded in its lower half with the lower half of our descent.' If he had actually been continually to the N. of the real Brèche Supérieure couloir he would hardly have written: 'Once beyond this patch of ice we found no real difficulty. . . . We did not doubt that we had struck the "ordinary route."'

I fear that this note has stretched to a great length owing to the necessity of documentation, and references to confirm our own observations upon two recent visits to this peak, but I think it worth while to rehabilitate a very sound and pleasant route in the eyes of climbers. May I also be allowed to endorse Dr. Wilson's remarks upon the great charm of these three peaks: the climber nearly always will find himself alone, and can discover a great deal that still requires exploring, while the threat of extreme popularity has been averted by the destruction of Refuge Lombard in the spring of 1928!

J. L. LONGLAND.

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I have been much interested in reading Mr. Longland's note, and in examining the picture of the E. face of the S. Aiguille d'Arves when quite free from snow. I have seen others somewhat similar, but I deliberately chose, for the model of my sketch of routes ('A.J.' **40,** 15), the photograph by M. Piaget shown on p. 344 of *La Montagne,* 1910, because it showed a large patch of ice or snow more or less where we had found one, and a small patch, close to the couloir, which seemed to correspond with that shown on the diagram illustrating Mr. Bicknell's route ('A.J.' **39,** 346). In this photograph, as in my copy of it, the couloir is seen to bifurcate above, one branch going to each of the Brèches on the sky-line. It is difficult to correlate the two photos: or to account for the branch couloir leading to the Brèche Inférieure, unless on the assumption that a fall of rock may have altered the topography. I cannot say that I have any recollection of noticing this branch, on either of the occasions when I was on the mountain. I copied it, because it is there on the photograph.

As to our route down in 1892, we traversed diagonally down a large steep ice slope, and left it at its lowest point, a long way N. of the couloir. Where exactly this should be placed on the picture of bare rock presents a problem.

After leaving the ice, my recollection is that we went pretty straight down, but we *may* have been forced to the S. as Mr. Longland's comments would seem to imply.

Signor Corra's route, as shown on my sketch, was evolved from M. Capdepon's account. Reading M. Gaillard's directions (*Alpes de Savoie*), after completing my digest of the two Capdepon papers, I concluded that they must be misleading. They did not fit in with my recollections, and I thought it possible that Mr. Bicknell's party might have been led on to dangerous ground through reading them. I trust that the route shown on my sketch may not lead future climbers astray.

CLAUDE WILSON.

THE FIRST ASCENT OF PIZ BADILET.

PIZ BADILET, or Cima Sant' Anna, 3168 m. = 10,394 ft., *S. map,* or 3169 m., *Lurani map*—an extraordinary instance of the accuracy of the late Count Lurani's measurements. No name or height on the *I. map.* Name only (*C. Sant' Anna*) on the *Wilson map.*

This splendid peak, dwarfed only by its position close up against the overwhelming Piz Badile, occupies a position of the greatest topographical importance, being astride the heads of two valleys and one glen, Porcellizzo, Codera and Trubinasca. Besides Count Lurani's admirable map, only the new Siegfried (1927) and *Wilson* maps represent its position correctly as the point where the long

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Porcellizzo Ridge, starting from above the Lago di Como, abuts against the main or frontier ridge. As a climb of more than usual interest, its ascent has now, perhaps, been accomplished twenty or thirty times.

The three Climbers' Guides[1] to the district are unanimous in awarding the first ascent to the late Count Francesco Lurani and Signor C. Magnaghi with Giovanni and Giulio Fiorelli of Val Masino, July 26, 1893. Major H. A. Tanner in his 'Forno-Albigna-Bondasca' (1906), the first guide-book to part of the district, states (pp. 62 and 114) that the 1893 party made an 'attempt' on the peak, 'attaining nearly the first tooth of the summit'; Tanner goes on to claim (pp. 64 and 114) the first ascent of the highest point for himself with the late Christian Klucker on June 22, 1904.

In reality this ascent, a variation of the route taken in the second ascent of the mountain, was the *third*.

Major Tanner has now written a long letter,[2] in *Romansch*, addressed to the Section 'Bernina,' S.A.C., with a copy addressed to the Alpine Club, in which he seeks to prove his contentions of having been first on the actual summit of the peak.

To meet Major Tanner's claims a description of the actual mountain and of its several routes is necessary. Piz Badilet may be said to possess two arêtes, N.W. and S.W., and three faces, N., S.W., and S.E. The N.W. arête, forming the easiest route, can only be attained by a steep and dangerous climb from the Codera Glacier (to the S.)[3] leading up to the gap between our peak and the precipitous Punta di Trubinasca, 2996 m., *S. map*. The S.W. arête, mostly a knife-edge of precipitous rock, is best attained by climbing the Punta Torelli, 3132 m. (the figures on the *S. map*, 3182, are a misprint, so Colonel von Steiger informs me), and then following the said ridge. The N. face is a tremendous precipice of slabby rock with a fairly defined rib, well shown on the new Siegfried, projecting from it. This face is, in fact, a replica of the famous N. face of Piz Badile on a greatly reduced scale; hence the peak's appropriate name. The S.W. face is a clean-cut and inaccessible rampart above the Codera Glacier; higher up, it eases off and its last icy part is traversed when ascending the mountain by the N.W. arête. The S.E. face is less high than either of the others and consists of smooth,

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[1] *The Alps of the Bernina* (1910), i, pp. 17–20 (Strutt). C.A.I. *Guida*, Alpi Retiche Occidentali (1911), pp. 237–9 (Balabio). S.A.C. *Club Führer*, Bündner Alpen (1922), iv, pp. 161–3 (Rütter).

[2] Dated June 22, 1929, the twenty-fifth anniversary of his ascent. This letter is unfortunately far too long and contentious for publication. It is, moreover, written in a language with which but few Britons are in any way acquainted. A German translation is in the A.C. Library.

[3] The route from the N., when once accomplished, is quite out of court.

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precipitous slabs seamed in one or two places by fairly deep-cut but narrow chimneys. The edge between the S.E. and N. faces might be described as an 'arête,' but is very short and abrupt, as our peak is but 150–200 ft. higher than the Colle del Badile to the E.[4] The following is a chronological summary of the different routes (and variations thereof); nearly each ascent appears to have been by a slightly different route from its forerunners, and no route hitherto discovered is really *safe* except the S.W. arête.

(i) By the N.W. arête, reached from the S. July 26, 1893, Count Lurani's party as above.

(ii) By the N.W. arête, reached from the N. June 12, 1899, Herr Anton von Rydzewsky with Christian Klucker and Angelo Dandrea of Cortina.[5]

Variation of (ii), to the E. June 22, 1904, Major H. A. Tanner with Christian Klucker.

(iii) By the S.W. arête. August 11, 1909, Signori Romano Balabio and Gaetano Scotti.

Variation of (iii), *i.e.* by the S.E. face and S.W. arête. August 3, 1911, Signori Antonio Balabio and A. Nava. The account is quite incomprehensible.

(iv) By the E. face (and E. arête or rib). October 18, 1921, Count Aldo Bonacossa and Signor Antonio Polvara. On this day the party followed the S.W. arête *backwards* to the Punta Torelli, a most difficult expedition not yet repeated.

Variation of (iv). July 19, 1924, Lieut.-Colonel E. L. Strutt with Pierre Blanc, taken in the *descent*. Probably there is little difference between the 1911, 1921 and 1924 routes, except that Bonacossa and Strutt hit, or left, the S.W. arête close to the summit, while A. Balabio *appears* to have hit it far further to the S. This route, or variations thereof, have now become fashionable.

The summit ridge of Piz Badilet consists of two peaks, W. and E., separated from each other by a snow ridge forming a formidable corniche overhanging the N. or Trubinasca (Bondasca) slope. The E. peak is some (?) 200 ft. higher than the W. and is about 20 to 30 minutes distant from the latter. By traversing the S.E. face all difficulty and danger, between the two peaks, is usually avoided.

The Summit, or E. peak, consists of two *teeth* split off from each other by a gap or cleft 2 metres deep (Tanner, p. 156) and 5 feet

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[4] The deep-cut notch immediately E. of our peak is not the Colle del Badile, the N. couloir leading to the notch is impossible of access. To the E. of this notch comes a gendarme, absurdly christened Badiletto (!), *Guida*, p. 235; the pass is immediately E. of the gendarme and between it and the main mass of Piz Badile. See *A.J.* **37**, illustrations facing 140 and 142.

[5] Owing to causes explained later, this party, having attained the W. peak, turned down the N.W. arête without proceeding to the summit.

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wide horizontally (Strutt, 'A.J.' **36**, 410, footnote 1). The E. tooth (Tanner's) is perhaps *one* foot higher than the W. tooth (Lurani's)![6] 'Hinc illae lachrymae.'

The question has already been dealt with in the JOURNAL, and I thought had been allowed to drop. I now repeat my own remarks made in 'A.J.' **27**, 411–412, and reproduce Count Lurani's letter, sketch, and photograph. I am much indebted to Herr Rütter for the use of his photograph taken from the N.

. . . 'Regarding the first ascent of this peak the following facts have not been published previously. Wishing to learn a few intricate topographical details concerning the district, I wrote to my esteemed master, the late Count Lurani. I render his (English) reply so far as this peak [Piz Badilet] is concerned.

Viareggio: *June* 15, 1909.

"Concerning my ascent of the Cima Sant' Anna (I availed myself, as regards the name, of the privilege to be exercised by the *first party*[7] as did Payer with the Punta San Matteo),[8] with Carlo Magnaghi and Fiorelli, the weather was very bad, thick cloud and snow. We reached what we thought was the summit, but owing to mists failed to recognise that there is in the *immediate vicinity* another boulder 3 or 4 ft. higher than the one we were on. This

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[6] In 1924, on arriving at Lurani's tooth, Pierre Blanc leant across the cleft and grasping the other in his hands swung himself on to the very acute point overhanging the mountain's vertical S.E. or Porcellizzo face. To me it appeared less painful to touch it feet foremost. I fear that the remainder of my body has never reached the highest point! When I told Pierre Blanc, most uncomfortably *à cheval* on the highest 'summit,' of the controversy still agitating the mind of a certain individual, his sole remark was, 'C'est de la blague.' In the letter quoted further on, Klucker's comment on the topography of the summit teeth and cleft is terse and to the point: 'Ein ordentlicher Felsgänger kann die Spalte ohne Bedenken überspringen.'

As it is as well to quote all the authorities' opinions, I add Herr Rütter's remarks: 'Only a "hair-splitter" could claim the honour of the first ascent, because he made the few easy steps to the top, which the Lurani party *perhaps* (only perhaps!) did not owing to the blinding storm.' Herr Rütter adds: 'I am quite of your opinion and back you entirely.'

[7] My italics.—*E. L. S.*

[8] Count Lurani was not quite accurate here. The first ascent of the Punta San Matteo was made on June 28, 1865, by Messrs. D. W. Freshfield, F. F. Tuckett, J. H. Backhouse, and G. H. Fox with François Dévouassoud and Peter Michel (*A.J.* **2**, 145–146); the (?) *second* ascent was made by Payer on September 21, 1867.

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SUMMIT OF CIMA SANT' ANNA.
(Drawn by Count Lurani.)

W. PEAK. LURANI'S PEAK. E. PEAK

TANNER'S PEA

Photo, Count Lurani.
PIZ BADILET (Cima Sant'Anna) from the PUNTA TORELLI.

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Photo, H. Rütter.

The head of the TRUBINASCA Glacier
(Showing "Rydzewsky" and "Tanner" routes on N. face of PIZ BADILET).

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very slightly higher point was the one reached subsequently by Herr Tanner. We left our cards some 20 metres below the foot of the highest summit, where Tanner also found them."

'I venture to reproduce the photograph and sketch most kindly sent to me by Count Lurani. Christian Klucker confirms the locality of the cards almost to the very inch.

'Under the circumstances, and considering the ludicrously small interval between the point reached and the actual summit, few can hesitate to grant *unreservedly* the honour of the first ascent to the gallant Milanese and his companions.'

Major Tanner's letter contains several inaccuracies. He says that Klucker 'gave,' originally, the first ascent to Tanner and himself, but had then changed his mind. Now, in 1908, Klucker assured me that the reasons why he and Rydzewsky on June 12, 1899, after their terrible ascent of the N. face of the peak, did not proceed beyond the W. peak, where the N. face route joins the watershed were: (1) that Rydzewsky was too tired and the Cortina porter too incompetent; (2) that he, Klucker, was convinced that Lurani [9] had reached the summit. This opinion was subsequently still further confirmed by his having, together with Tanner, discovered in 1904 the card of Lurani just below—'3 metres to the S.W. of,' so Klucker in the quoted letter—the actual summit (W. *tooth*), after their still more dangerous ascent from the N. of June 22. In the letter referred to, dated September 25, 1925, in the possession of a mutual friend, Christian Klucker confirms the above statements. The great guide adds, with some heat, that he also had hoped the claim was long buried!

Moreover, on June 22, 1904, Tanner set out from Sassfurà, on his own admission (p. 153), to attempt the then unclimbed E. arête of the Punta di Trubinasca. Being foiled in his desires by the impossible conditions of the couloir between Punta di Trubinasca and Piz Badilet, Klucker and he, determined to accomplish something, then tried to repeat (p. 154) Rydzewsky's route up Piz Badilet; this also proving impossible owing to conditions, the party was compelled to attempt the peak by a very bad and dangerous variation of the said route. In this attempt they were successful. Tanner is so confused between the W. and E. peaks that he states in his book, p. 114, that Rydzewsky made the first ascent of the

[9] If Lurani, in kindly contradiction of his quoted letter to me, 'gave' the first ascent to Tanner, as the latter declares in his letter to the S.A.C., it was probably because the former did not consider the 'summit' *tooth* worth quibbling about, when the honour of having found and accomplished the entire route, for the first time, to within five feet horizontally and one foot vertically of the 'summit,' naturally accrued to his party! The modesty and charm of Lurani were bywords in Alpine circles, as indeed Tanner recognizes.

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W. peak in 1899—over which, p. 62, Tanner acknowledges Lurani to have passed in 1893, thus contradicting his own statement! Tanner, so it would appear, has failed to differentiate between the W. and E. *peaks* of the mountain and the ridiculous W. and E. *teeth* of the 'summit,' discovered and exploited by himself. (See Tanner's illustration, p. 116, and the reference to Lurani's ascent, p. 151.) It is highly probable that Tanner—like everyone else except Lurani and Klucker—knew nothing of Piz Badilet until his ascent. At all events, he did not deny publicly Lurani's first ascent until *after* his own.

Is it likely that a guide like Christian Klucker, explorer if not pioneer of his own native mountains, would, in 1899, have hesitated to do—alone if necessary—the extra 20–30 minutes of easy work to the summit and back, if he had thought for one instant that the said summit was still virgin ?

It is quite safe to assert that not one single mountaineer, amateur or professional—except Tanner—has ever hesitated in accepting unreservedly Lurani's expedition of July 26, 1893, as the first ascent of Piz Badilet.

If Major Tanner be still sceptical let him turn to 'A.J.' 5, 206–211, to Mr. Freshfield's description of the first ascent of a peak not far from the Bregaglia, the Tinzenhorn: Two parties, Mr. Freshfield's and another, were 'bustling' on the same August day of 1866 for the honour of the first ascent. Mr. Freshfield's party, leading throughout, helping the others to avoid difficulties, duly reached the top. Sitting there for an hour or more in some anxiety about the others, they eventually descried them crawling along the ridge towards the top. To continue in the *doyen* of mountaineers' own words: 'As they came up, I, knowing the importance attached by . . . mountaineers to such *small points*,[10] indicated a boulder two feet higher than that on which I was sitting, and said, "See, Sir, there is the 'allerhöchste Spitze'; it is still unclimbed." With a sudden effort the Herr rushed on to it and grasping J—— and F—— by either hand, so as to form the familiar group of the oath of the Grutli, gave vent to his feelings in a sentence which, beginning with "Hoch" and "Vaterland," soon subsided into "Geben Sie mihr Schnapps."' . . .

To turn still nearer home, let Major Tanner glance at the prominent tooth, point 3198 m. (*Lurani*), Punta Sertori, on the E. arête of Piz Badile, on the same ridge and near Piz Badilet. The actual top, or E. tooth, a foot or two higher than the western or point always ascended ('A.J.' 24, 686), was not climbed till July 20, 1913; but have Aldo Bonacossa and his companion ever attempted to ravish the honour of the 'first ascent' of September 17, 1900, from Gugelloni and Sertori, both long since dead, as are Rydzewsky, Lurani, alas, and now Klucker ?

[10] My italics.—*E. L. S.*

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The whole story and claim are absurd. Why, in a snowy[11] season the W., or 'Lurani' tooth, on which there is ample space, would be *higher* most certainly than the 'summit' hardly thicker than the end of a tent-pole!

Let Major Tanner, of whom I have the kindliest recollections on Sils Lake in the 'nineties, who has done much good work in the Alps, who will always possess the honour of having 'introduced' to mountaineers in general the wonderful West Wing of the Bernina, let him, with the greatest respect, I repeat, withdraw gracefully from an untenable position and rest content with his conquest of Piz Badilet[12] by its most difficult and dangerous side.

E. L. Strutt.
'Bernina' Section of S.A.C.

Olympus from the West and South.

The following note of an expedition we made over Olympus last July is written to supplement the account of our former visit to the mountain in the summer of 1926 ('A.J.' **39**, 86 *et seq.*). We started from Larissa by motor car in the early morning of July 13, and went over the usual very indifferent roads of northern Greece to the neighbourhood of Selos. The last bit of the journey to Kokkinoplos was accomplished with a donkey to carry the baggage, as first the road and later on the motor car gave out. Provisions were taken from Larissa, as one cannot rely on getting anything in the way of food at Kokkinoplos. We took one mule and muleteer from this village; and as we were setting out for the mountain three soldiers were compulsorily provided by the gendarmerie to accompany us. By the evening we got as far as Mikri Gourna, a grassy combe well above the tree line, and here we pitched our tent at about 8000 ft. The muleteer and soldiers were provided with felt coats and slept in the open. There was no water here, but a small patch of snow served as substitute.

On July 14 we went up Megali Gourna, and by easy slopes to the top of Skolion and then on to Skala, having fine views across to the main Virgin-Mitka-Throne of Zeus ridge. We arrived at Skala about 11 A.M. and left the soldier escort there while we climbed the length of the rock ridge. From Skala we descended to a deep depression in the ridge, from the further side of which we gained first the Tarpeian Rock and then the adjacent summit of the Virgin. Retracing our steps slightly, we descended the eastern face a short distance and

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[11] As on the day of Lurani's ascent?

[12] I might add that the alternative name, Cima Sant' Anna, was given to the mountain by Count Lurani in honour of the Saint on whose festival the first ascent was made.

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then climbed up to regain the ridge at the Cock's Comb. From here the arête led us straight to the summit of Mitka. Descending from Mitka by the long eastern gully and working round to the gap Stribadha, which lies between Mitka and the Throne of Zeus, we continued on up to the summit of the Throne of Zeus. The climbing was nowhere difficult and most of it just quick rock scrambling—it was not necessary to put on the rope at any part of the way. After descending the Throne of Zeus we skirted round the cliffs to Porta to investigate the rocks of the ridge which descends from the Throne to this gap. We found these rocks very broken and fragile and far too well provided with forbidding overhangs. We did not consider an ascent impossible, but, if made, it will be extremely difficult. We returned along the terraces and screes on the E. side of the ridge with a final oblique and easy ascent to the summit of Skala. From Skala we cut straight across to Megali Gourna, avoiding Skolion, and reached our camp about 6.30 P.M.

On July 15 we made the descent to Sparmos, a village on the S. of the mountain. From the head of Mikri Gourna we went E. as far as Dristela, all the way over grassy uplands, and from Dristela we made a rapid descent to a southward running valley. Just above the tree level we reached a most welcome fountain, and from here downwards a track led through the trees first in the gorge of the valley and later on over a shoulder to our right. Lower down we passed near but not actually by the monastery of Aghia Trias. At midday we got down to the few houses of Sparmos village—a place where it would be impossible to get provisions—and continuing on, with sundry rests in the intense heat, we reached Elassona in the evening.

To sum up the impressions of our two expeditions we have rather come to the conclusion that the most interesting and certainly the simplest approach is from Litokhoron on the E. To reach either Kokkinoplos or Sparmos from Larissa is a long business and involves a considerable motor drive, anyhow as far as Elassona. Further, the approach from Kokkinoplos or Sparmos means a long trek across rather monotonous grassy hills before one reaches the crest of the peaks, and this is avoided on the eastern side. From whichever side one comes, one night at least must be spent on the mountain, and for a camping site there is not much to choose between Bara and Mikri Gourna. At neither of these is wood available; but the Kalivia in Mavrolongos, where we camped in 1926 coming from Litokhoron, is among the trees and so has plenty of wood to burn. At none of the three places is there any water, but snow lies in patches near all three. Although we have not tried it, we think the small chapel on St. Elias might prove a very convenient sleeping place, as it is so near to the Mitka crest; but both wood and water would have to be carried there.

C. M. SLEEMAN.
W. T. ELMSLIE.

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Exhibition of Pictures at the Alpine Club.

THE first comment we have to make on the Exhibition of Paintings held in May is one that might have been made on all the exhibitions held at the Club in recent years. It is that, with one or two exceptions, none of the pictures indicate that there are such things as human life or animal life in the Alps. We cannot help thinking that interesting pictures of Alpine districts might be made to include their inhabitants and beasts. Anyhow, we bring the fact to the notice of exhibitors at our future shows.

The general level of the Exhibition was higher than those of the past few years. Although, perhaps, the best paintings were not better than in former years, there was not such a marked 'tail' as usual.

To leave the general and come to the particular. One of the features of the Exhibition was the display of several of the water-colours of the late Mr. Alfred Williams, who was a well-known member of the Club. These reached a high degree of excellence and notable among them were 'Saas Grat from the Augstbord Pass' (14) and 'Distant Himalaya' (17). Together Mr. Williams' paintings, apart from their personal appeal to his friends, formed a group which combined sound workmanship with attractive results.

We liked the delicacy of Mrs. E. J. Rimington's 'Above the Battle' (6).

Mr. Cecil A. Hunt and Miss Hilda Hechle can be reckoned among the best Alpine painters, but we fancy that they do not send us the best specimens of their work. 'The Five Towers' (35) by Mr. Hunt was a faithful piece of colour, but his 'Weisshorn' (55) was hardly up to his standard. Miss Hechle's 'Mountain Landscape' (51) was certainly very blue, but she undoubtedly knows how to obtain effects of distance. In 'The Aletsch Glacier' (23) and 'The Roseg Valley' (24) Mrs. E. M. Dixon got well the depth of colour in snow.

We thought that Mr. E. Harrison Compton's 'Matterhorn and Gorner Glacier' (30), 'Matterhorn from the Riffelberg' (45), and 'Petit Cervin and Breithorn' (49) among the best things in the Exhibition. His lighting was admirable and particularly his light on distant snow was most successful.

In 'Dents du Midi from Bex' (36) Mr. Colin B. Phillip well

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achieved atmosphere, especially when the picture was seen from a distance.

Not many oil-colours were shown. Probably transport makes paintings in oils inconvenient or there are technical difficulties. Of the few oils, Mr. Henry A. Trier's 'Bregaglia Bridges' (39) and Miss Margaret W. Wansey's 'Sunshine and Storm in the Rhine Valley' (151) showed what can be done in that medium.

Mr. C. G. Blampied is always pleasing. 'Drei Zinnen' (41) was a true representation of its subject. Colonel H. R. B. Donne's pictures invariably enjoy a wide popularity. His style is to our thinking somewhat old-fashioned. His 'Looking across the Lake of Geneva' (37) was his best, and it seemed to us that he is better at representing scenery at its lesser altitudes than in the heights. We should like to see how he would fare in the plains.

Mr. Sydney Spencer's 'Chalets near Zermatt' was his most satisfactory exhibit. We are inclined to think that his distances are the best part of his pictures and it would be interesting to see how he did in the ice and snow regions with which we believe he is not unacquainted.

Miss B. M. McAndrew's paintings have a photographic accuracy. In 'The Schlern, late Afternoon' (100), Mr. Colin W. Wyatt depicted the clear light of the Dolomite region.

There was a good cloud effect in Miss Pawsey's 'A Thundercloud' (102), and the three figures in her 'Children of the Mountains' (193) were well posed and drawn.

Mr. H. E. Daunt showed a Joseph's-Coat-like sky in 'The Phœnix' (15) and, although we do not doubt that the sky took on all those colours, we think that the rocks must have been less black-and-white than they appeared in the lower part of the picture.

Signor Giorgio de Wolff had a pleasing set of Dolomite Landscapes in 167 to 171 and he reproduced faithfully the transparent air of the region. In one or two, however, in order to bring out the colours of the flowers in the foreground, he rather enlarged their size.

It is always a little interesting to compare the prices placed on the pictures by their painters, even if one is a mere onlooker and not a prospective purchaser. The prices were no criterion of the merit of the pictures and in many cases the permanent pleasure of possession could be obtained for a small outlay.

Altogether the Exhibition was one of great interest to lovers of mountains and our thanks are due to our exhibitors and to

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Mr. Sydney Spencer and Mr. Oughton for getting together once again a collection of paintings which revived glad memories of the past and inspired hopes for the future.

The Exhibition of 204 pictures of Alpine scenery and subjects, the work of some fifty-six artists, held in the Gallery of the Alpine Club in May 1929, provided an interesting show. The walls were very crowded and one was forced to the conclusion that a considerable amount of weeding out could have been safely undertaken without in any way detracting from the general standard of the Exhibition or the adequate presentation of the work of the numerous artists. As it was, much of the work shown appeared insignificant in contrast with the more outstanding pictures, and it required much time and patience to pick out, here and there, the smaller pictures of pleasing quality and design. Amongst these latter were 'Entrèves' by E. Hayter Cox, 'A Peasant Cart, Pyrenees' by Miss A. G. Holman, 'Lake of Thun, Spring' and 'Tinzenhorn' by Ll. F. Menzies-Jones, 'Les Baux' by Miss Sylvia Powell, 'Kvernibru, Aursjo' by Mrs. Edith Candler, and 'In Mantle of Blue,' a clever drawing by Mrs. E. J. Rimington. Youth was represented in the three 'oils' of Mr. Colin W. Wyatt. He portrays the things seen with absolute fidelity almost to the point of being photographic. Withal there is much pleasing light and shade in his pictures. The six pictures of that persuasive colourist Colonel Donne were all in his usual correct style. Some there may be who will cavil at his incorrect drawing of various peaks, but no one will gainsay the attractiveness of his pictures, and the artist can have no better appreciation of his work than the small 'red spots' which invariably appear on his drawings. Much the same may be said of C. G. Blampied, another popular artist. Miss Emily Paterson contributed oils and watercolours, all very much sub-alpine. Her 'Hill Town, France' was evidently sent to the Exhibition by mistake, and a magnifying glass would have been required to discover the town in 'A Hill Town, Italy.' Her 'Monte Pellegrino' was a seascape, and 'Vesuvius from Pompei' was mostly Pompei. All excellent pictures in their way. H. E. Daunt exhibited some very gay pictures of the Japanese Alps conceived with skill and much brilliant colour. He produced a rainbow-hued sky with considerable verve. Miss Marguerite Kees revels in

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colour but has quaint ideas as to composition. E. Harrison Compton follows in his father's footsteps, but with much stronger tones. The 'Weisshorn' by Cecil A. Hunt was one of the best pictures in the show. Two other noteworthy pictures in the same class of consummate artists were 'Dents du Midi from Bex' and 'Mists above Kandersteg' by Colin B. Phillip. T. H. Somervell's pictures of the Himalaya give the impression of an amazing technique, perfect drawing, restrained colouring, vast distances and heights. Excellent. Something of a change in style was shown by Clement Du Pontet. There was considerable variety in his pictures and much light and colour. J. N. Collie's views of Scotland and Skye were all in his individual style and conveyed something of the warm moist tones of the northern landscape. Colonel Howard's 'Dawn on Monte Rosa' was impressive, and the same remark applies to Miss Wansey's 'Sunshine and Storm' —both large 'oils' executed with skill. Miss Hilda Hechle invited comparisons in showing her 'Early Work' (No. 122), a pleasing rural subject with much detail. This artist has travelled far since she produced that work, and she has developed both strength and virility in her drawing and composition. Her 'Mont Cervin' with its wind-tossed clouds was notable, and one had to admire the splendid perspective of her 'Mountain Landscape.' Miss Veronica Lucas draws well, but her foregrounds of trees are irritating. This refers specially to her 'Impression of Lake Orta.' Her other pictures had no particular merit. Mr. Spencer showed some bright little pictures. Chalets fascinate him and he draws them well. His middle distances are occasionally over-coloured, but he represents the mountains with astonishing truth. The 'true to nature' pictures of Dolomite scenery by Signor Giorgio de Wolff were a distinct acquisition to the Exhibition. All conveyed the impress of the master touch in his handling of the varied subjects. Some of his pictures would have looked better had they been mounted. Miss McAndrew's laboured productions leave one quite cold. They must be depressing to live with. 'Bregaglia Bridges' by H. A. Trier was a beautiful picture. One wished for more of such works of art.

Some twelve pictures by the late Alfred Williams were on view. One of the 'Old Guard,' it is but natural that his pictures should appeal more to the older generations whether it be his delicate 'Distant Himalaya' or his more robust 'Saas Grat from the Augstbord Pass.' His 'Madonna del Sasso on Lago Maggiore' lacked colour in the portrayal of this famous

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W. CECIL SLINGSBY.
1849-1929.

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church. Mr. Stafford Leake's sketches showed marked originality. He wields a facile pencil.

These are a few impressions gleaned in a tour of the Exhibition. The number of new contributors suggests that the mountains have a growing attraction for the people who paint. May it be so. It would be ungracious to conclude without a word of thanks to the Alpine Club for their courtesy in throwing these Exhibitions open to the general public.

IN MEMORIAM.

WILLIAM CECIL SLINGSBY.

(1849–1929.)

The Father of Norwegian Mountaineering.

A Leaf of History.

In 1872 a strong young Englishman, 23 years of age, standing on the Sognefjeld and gazing at the Horungtinder, became lost in the sight. 'Undoubtedly,' he afterwards wrote, 'the finest mountain range in Norway. I shall never, as long as I live, forget my first view of Skagastölstind, the grandest European mountain north of the Alps. Our guide told us that it was the highest mountain in Norway, that it had not yet been ascended, and that no doubt this was impracticable. Can it be wondered that I determined, if possible, to make the first ascent?'

This young man was William Cecil Slingsby, and at that moment his vocation as a mountaineer was born within him.

Four years previously a Norwegian mountaineer, Mr. Emanuel Mohn, from the summit of Galdhötind had viewed with wondering eyes the mountain ranges of the Jotunheim, and it then happened to him, as later it happened to Slingsby, that the first overwhelming impression created in him an irresistible desire to dive into this wonderful nature and to explore its secret marvels.

The stakes made by these two pioneers form the basis of Norwegian Alpine sport. Thanks to their achievements the rhythm of mountain life may be felt, as it is noticeable how their first strong impressions, after having been duly sifted in their minds, enabled them to see and to grasp that particular aspect of the sport for which their physical and mental qualities destined them. They did their work within the same period of years, and the results of their pioneering activity are so intimately dependent on the peculiar and the supplementary character of their nature that their history must be read connected.

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Striving to gain his object, Slingsby came to Norway in 1874, and in 1875, when in Jotunheim, he made a number of maiden ascents and traverses which made his name well known throughout the country. Thus, in 1874, accompanied by Algernon Dewhurst, he made the first traverse of the Horung group of mountains with the object of getting better acquainted with the position of the great peak, and this first traverse represents in more than one way a very important victory for the sport of mountaineering in Norway. The mass of wild and rugged mountains, seamed with glaciers, called by the common name of Horungtinder, was at that time the only region of Jotunheim still unexplored. No matter from which part this mountain region is approached, everywhere broken-up glaciers must be surmounted before the narrow passes, 5000 ft. high or more, may be reached, and dominating it all is the Great Skagastölstind, which at that time was generally considered the highest mountain in Norway. The peasant population of the surrounding valleys had, from times remote, had their intercourse by routes circumjacent to the Horungtinder, and no time- or distance-saving trade routes had as yet been forced through them, such as elsewhere, for instance across the Jostedal Glacier.

The Horungtinder had remained in a most peculiar state of retiredness, and both the mountains and the glaciers impressed people with such an awe that no one had so far ventured to trespass on their threshold. No wonder, therefore, that the news of the first traverse was received by the general public with a mixed feeling of awe and admiration. It constituted, in fact, the first breach through a wall of incomprehensible prejudice barring the district, and which did not fully disappear till after the Skagastölstind itself had been conquered.

Mohn, our first self-dependent mountain pioneer, had also won a name for himself, and when he and Slingsby met in 1874, both had a feeling of meeting a companion—the only one—capable of attaining with the other the loftiest summits. Slingsby, the foreigner, needed the vast local topographical knowledge of the mountains possessed by Mohn, and Mohn on his side felt attracted towards the Alpine sport, new to him, by Slingsby's many brilliant feats. A true friendship sprang up between them, and they agreed on an extensive campaign together for the summer of 1876. The Norwegian mountain world lay open to them, adventure was calling, and they fancied there could be no obstacles they could not jointly overcome.

And then came 1876, the year in which mountaineering as a sport won its decisive victory in Norway. The two friends engaged for their expedition the reindeer hunter Knut Lykken, a man of considerable experience on ice. The campaign turned out a veritable *via triumphalis*: 'In six days five notable maiden ascents had been made, which is probably the most successful little campaign ever waged in Jotunheim.'

In the afternoon of July 21 they found themselves high up on

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the steep glacier (the Slingsby Glacier) squeezing itself up towards the lofty gap (Mohn's Skar) 500 ft. below the summit of the Skagastölstind. This glacier had been observed by Slingsby from Friken in 1875, when he immediately realized that this would be his high-road to success.

After the strenuous work of the preceding days, with far from sufficient rest, the ascent of the steep, 2000-ft. high glacier proved very tiring, but Slingsby, restless in his eagerness to attain his end, unroped and worked his way towards the gap ahead of his

Photo, H. Tönsberg.]

STORE SKAGASTÖLSTIND AND MOHN'S SKAR.

(Slingsby's route in the middle.)

companions, and there, just below the aim of his dreams, bitter disappointment waited him: 'Looking towards the true Skagastölstind, I felt I was beaten after all, and my dream at an end, as it is difficult to imagine any mountain presenting a more impracticable appearance than is shown at first sight of this peak from the skar.'

While Slingsby was gazing at the summit in despair, his two companions joined him in the gap, and Mohn asked: 'What do you think of it? Shall we declare it inaccessible?'—'I don't know; but we have not yet proved it to be so, we must not give up without a try. Will you come?'—'No.'—'Knut, will you?'—'No, I shall not risk my life.' Then Mohn said, somewhat unreflectingly: 'If

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there had been two well-trained Alpine climbers here I think they might have managed it.'—'Well, I will at least try,' exclaimed Slingsby, and hurried along the gap towards the steep wall of the summit, and 'Now, farewell to snow, that great aider of mountain ascents, and 500 ft. of cold rock!'

He threw in his lot—and won!

What was it then that made Slingsby feel startled in Mohn's Skar, and why did not Mohn accompany his friend in the final attack?

Both were men of excellent technical abilities, and the homage both of them had met with made them feel they were ranging above most others. To them their victories had come easily, and this had partly deceived them. At last they found themselves in Mohn's Skar, and the mighty vertical shape of the summit had a paralyzing effect on both of them.

But Slingsby was a man physically predisposed for climbing. His inclinations were evident from the very first moment: 'Can it be wondered that I determined to make the first ascent?' He *must* go through with this ordeal, and he came out of it a ripe and self-possessed mountaineer. This great and happily accomplished ascent gave to Slingsby the confidence of his own abilities, and made him feel that for him there was no other kind of sport like climbing on rock and ice.

Throughout his career as a climber Slingsby preserved a marked preference for the Horungtinder, where he had had the privilege to pick out and to scale the loftiest summit. It may therefore seem strange that he should let so many years pass by before returning to this district. But to Slingsby this was only natural. He was an adventurous explorer, who wanted to see everything, so as to be able to pick out the best, and he felt he had to hurry on. 'For some years I had the field, as far as the sport of mountaineering was concerned, almost to myself, as English climbers had not yet recognized the value of this northern playground. Though I have made above fifty good new expeditions (in Norway and in the Alps up to 1904), I could easily have doubled the number if I had adopted the principle of making headquarters, and of making ascents from and returning to these places. However, this method never much commended itself to my taste.'

From the very first moment Slingsby had an open eye for the excellent possibilities the Norwegian mountains offered to Alpinism, and he had a strong presentiment of where and how to find the most important and exciting Alpine problems. The results of his 15 expeditions in Norway up to 1904 give evidence of his brilliant ability to find the right districts, and the mountaineer of to-day would have great difficulty in finding any mountain district in Norway where this remarkable pioneer has not left his mark. On the lofty summits of Jotunheim, of the Western Coast districts, of Lofoten, Lyngen, etc., has he built his cairns, and the many great

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glaciers, like Folgefonnen, Smörstabbræen and others in Jotunheim, as well as the 70 miles long Jostedalsbræ, were all familiar fields to him, where he practised that side of mountaineering which he, maybe, considered the best: that of ice-work.

During his many travels in Norway, Slingsby constantly increased his knowledge of Norwegian conditions of life, and he acquired a deep sympathy for the Norwegian nation, to which he felt himself strongly attached.

Accounts of his extraordinary experiences may be found in the *Aarböker of Den Norske Turistförening*, in the ALPINE JOURNAL, and in his principal work, 'Norway, The Northern Playground of Europe,' which excels in praise of the country and all Norwegians. It may safely be said that no other foreigner has done more to make the name of Norway known abroad.

Slingsby was an honorary member of 'Den Norske Turistförening' and of the 'Norse Tindeklub,' and he will always live in the memory of Norwegian climbers as the FATHER OF NORWEGIAN MOUNTAINEERING.

Oslo, October 1929.

H. TÖNSBERG.
E. SUNDT.

The following is a list of first ascents and new routes in Norway in which Slingsby took part:

1874: W. Memurutind.
1876: Torfinnstind.
Galdebergtind.
Uranaastind.
Gjertvastind.
Store Skagastölstind.
1877: Stölsnaastind.
1881: Store Vengetind.
Heilstuguhö.
Uladalstind.
Knuthulstind (new route).
Melkedalstind.
1884: Middagsnibba.
1885: Mjölner.
1889: Austabottind (new route).
Brekketind.
1898: Kjostind.
Stortind (Lyngen).
Jægervasstinder.
Tornestind.
1900: Mellemeste Skagastölstind (new route).
1912: Strandaatind (new route).
Osantind.
Skeistind (new route).

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Others who were companions of Cecil Slingsby from year to year in the Alps or in Norway, and who knew him well in the time of his greatest activity, will no doubt be writing a full account of him and his work as a great mountain explorer and skilful climber, but perhaps an old member of the Club, who must have known him longer than any other member still living, may be allowed to add a few words of a personal character.

I knew Slingsby for nearly 70 years, from the time when as boys we walked together over Pen-y-ghent and the hills of Craven, or when we climbed in the Lake District, when even the gullies on Doe Crags or the Pavey Ark Chimneys were little known, to later days when we had one or two expeditions together in the Alps, including a glorious day on the Mont Blanc de Seilon. But it was Norway that seemed to appeal to him most, and where he was as truly at home as among the fells and dales of Yorkshire or Westmorland. It was a privilege even to follow in his footsteps in places where he had stayed and left happy memories among the Norwegian peasants. Among the higher mountains, many of them almost unknown when he began his expeditions there, it might truly be said that St. Olaf and Cecil Slingsby shared the honour of being the Patron Saints of the country. He was a true Norseman, and his book on Norway is a record of pioneer work in districts which, but for his introduction, we might hardly have heard of.

He was an ideal companion, eager, indomitable, ever cheerful and unselfish. No one was a better leader, but none was more ready to take a second place if he thought it would amuse a less skilful comrade to lead. It is interesting to record that Cecil Slingsby was probably the first Briton to wear ski.

My brothers, who were members of the Club, were also among his close friends, and one expedition with my brother Charles—the first ascent of Mjölner in 1885—is recorded both in his book on Norway and in the ALPINE JOURNAL. I do not know whether the mountain is now considered difficult or not, but it certainly looked both forbidding and attractive as seen from the Vengetind many years ago.

There was never a truer lover of the mountains than he, or one more beloved by the people who lived among them. The oldest among us can remember no keener climber, no more generous and affectionate disposition, and no more constant friend.

A. H.

The following is a list of a few of Slingsby's principal ascents in the Alps:

1878. Guideless attempt on Grand Cornier.

1879. Mont Blanc traverse *via* Aiguilles Grises, Courmayeur to Chamonix in 22 hrs.; Matterhorn; Dent d'Hérens traverse to Prarayé.

1886. Höhlenstock, guideless, first ascent.

1887. Dents des Bouquetins, first ascent of several peaks, guide-

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less; Aiguilles Rouges d'Arolla, first ascent of S. peak, first traverse, guideless; Dent de Satarma, first ascent, guideless.

1890. Dent Blanche, storm, guideless. Many other Pennine peaks.

1892. Grands Charmoz, guideless. Attempt on Aiguille du Plan by N.W. face, an expedition of 54 hrs., with Mummery and Ellis Carr.

1893. Dent du Requin, first ascent, with Mummery, Hastings and Collie. Aiguille du Plan, first ascent from W.N.W. and first traverse with same party. Grand Combin, new route, with Hastings and Collie.

1895. New routes in Fusshörner and on Gross Nesthorn, guideless.

1896. Galenstock, etc., guideless; Mt. Blanc traverse, guideless, etc.

1902. Mont Blanc, etc.; Grand Combin; Mt. Vélan, etc., all guideless.

1910. Apennines, etc.—see 'A.J.' **25.**

1913. Alps and Apennines again.

Numberless ascents in the British Isles, *cf.* 'Mumm,' iii. pp. 273–282.

Mr. W. Cecil Slingsby, who has just died in his 81st year, was a notable representative of a family which has been for centuries active in the public, social, and sporting life of Yorkshire and our country. He himself reproduced remarkably a type of Englishman of which we have perhaps the best portrait in the diary of his seventeenth-century kinsman, Sir Henry Slingsby, the great country gentleman, Royalist, and nature-lover, who was beheaded for his quixotic loyalty to the person of Charles I. Like his prototype, an all-round sportsman, well known in earlier years in the hunting field, Cecil Slingsby was even more passionately devoted to the living beauty of birds and animals, flowers and trees. An ardent lover of his own countryside, of its dales and rocks, its archæology, traditions, and dialect, he was also an adventurous traveller and explorer of other lands, equally appreciative of all natural beauty and good humanity wherever he might find it. A traditional English Tory, with a keen interest in politics and education, he was at the same time the most democratic of men in personal intercourse, no less loved as an employer than as a neighbour, with an old-world courtesy of manner and a joyous sympathy for people of every race and class and age, for children and for animals no less than for men and women. A musician, the author of a delightful book of travel, 'The Northern Playground,' and a speaker who could capture any audience with his first impulsive sentences, he enjoyed all good literature, painting, and music with the same genuine enthusiasm.

But it is as one of the greatest of mountaineers that he will be longest remembered. For a mountaineer and explorer he had the ideal equipment—a magnificent physique, exceptional hardihood,

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grace and agility, an unerring judgment, and an imperturbable coolness and courage. Above all he had the gift of infecting others with his own quiet confidence; and however daring the exploit in which he took part, it seemed always assured of a successful and safe issue. Beginning as a small boy with scrambles on his own home crags, he mastered independently every branch of the difficult climbing craft. His name first became known in the Alps, where, with his cousins the Hopkinsons and his friends, Mummery, Norman Collie, and Hastings, he helped to inaugurate a new era of guideless climbing. He was also one of the chief pioneers of English rock climbing, and in later years, as he became in turn president of almost all the British clubs and a vice-president of the Alpine Club, his generous encouragement, combined with the universal affection with which he was regarded, contributed much to the development of mountaineering and of climbing organizations in our country. His last climbs, when he was over 70 years of age, were made upon some of the most difficult of Cumbrian cliffs.

It is, however, with the exploration of the peaks and glaciers of Norway that his name will be especially connected; and his first ascent of the greatest of Norwegian peaks, Store Skagastölstind, when his companions turned back and he intrepidly completed the ascent alone, will remain an epic so long as mountaineering stories are read or told. For Norway, indeed, he felt some hereditary affinity, and he acquired an almost unique knowledge of its people, legends, and remote fastnesses. In return, Norway celebrated his name and exploits, even in his lifetime, almost as those of some hero of saga or myth; and when he returned for the last time, to unveil a memorial to the 4,000 Norsk fishermen who had lost their lives in the War, his welcome had the dignity of a royal progress.

The mountaineering which made him famous was only one, if the principal, outlet for a vital personality of singular charm. A man of untouched purity of heart and thought, of great modesty, shrewdness, simplicity, and an infectious gaiety, he retained even into old age a boyish delight in all that he saw, or read, or heard, of beauty and gallantry, in nature, in art, and in human actions; and, with this, a capacity to express his delight in immediate gesture and speech, impetuously and gracefully, which inspired others with the same feeling. It is this atmosphere which he created for others, of joyous admiration and affection for the best things in life, which surrounds his own memory.

Mr. Slingsby married the daughter of Mr. W. Farrer Eckroyd, of Credenhill, the member for Preston, and had three daughters and two sons, of whom the younger, Captain and Adjutant Laurence Slingsby, M.C., was killed in 1917—one of nine gallant Yorkshire and Lancashire cousins who gave their lives for their country.

G. W. Y.

[From *The Times*, September 2, 1929. By kind permission of the Editor.]

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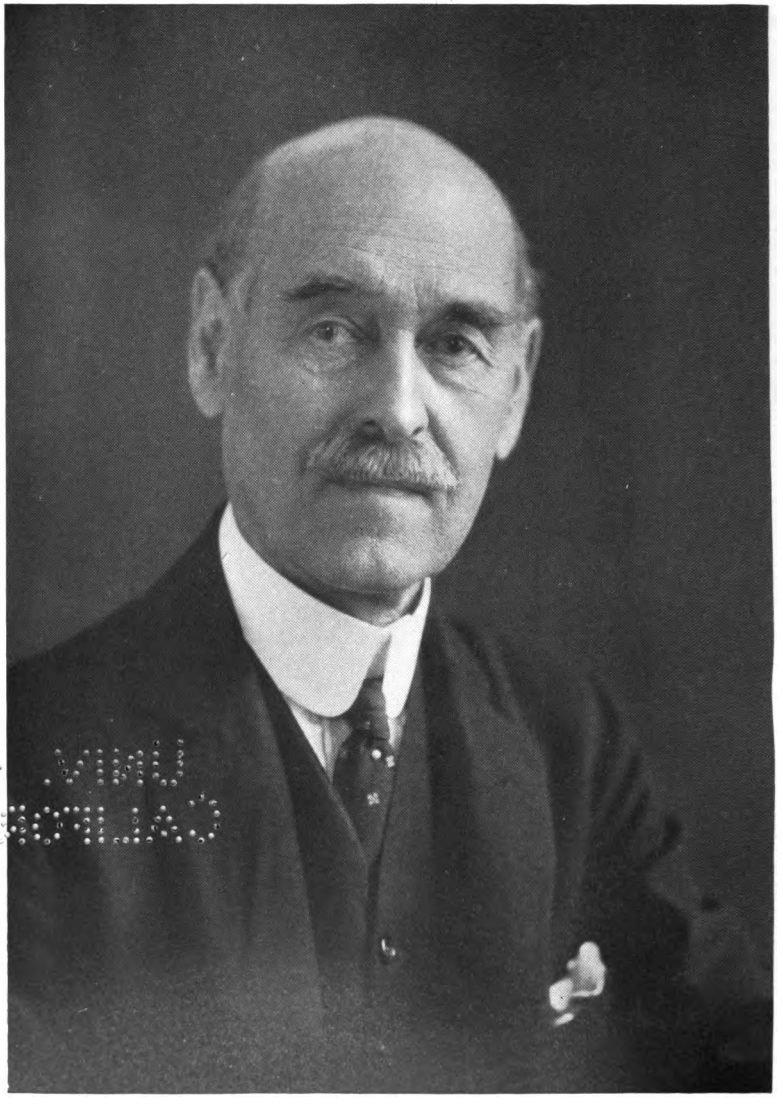

HUGH E. M. STUTFIELD.
1858-1929.

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HUGH E. M. STUTFIELD.
(1858–1929.)

In the death of Hugh Stutfield on April 1, 1929, the Alpine Club has to mourn the loss of a member who rendered it much valuable service of a varied nature, and who did much to maintain its prestige in the Alpine world.

He was born in 1858 at Dingwall and was educated at Rugby and Trinity Hall, Cambridge, where he obtained a 2nd Class in the Classical Tripos. He was called to the Bar in 1884, where however he never actually practised, and was for some years on the Stock Exchange, from which he retired, finding the work somewhat too strenuous for his rather nervous temperament. He was always a keen traveller, visiting in his youth Spain and Morocco, writing an entertaining description of his experiences during his travels in the latter country in a book entitled 'El Magreb.' From 1881 to 1897 most of his holidays were devoted to climbing in the Alps, which brought him into the Alpine Club in 1886, where he served on the Committee from 1898 to 1900 and as Librarian from 1907 to 1909. In 1898 and 1902 he joined Hermann Woolley and Norman Collie in two highly successful expeditions to the Canadian Rockies, during which many remarkable first ascents were achieved and a great deal of valuable information was gained of districts which were then comparatively unknown. Again in 1900, with Collie and myself, he took part in a very interesting and instructive journey in the same district up the Bush Valley which, although somewhat unsuccessful from the point of view of climbing, effected the useful purpose of adding to the map a considerable tract of unknown country. After 1902 he did no more climbing and spent most of his holidays shooting and fishing in Scotland. He was a good and safe climber, of which I had actual evidence on such peaks as the Grépon, La Meije and many others which we climbed together.

He was a sportsman in the best sense of the word; a keen golfer and cricketer and an excellent shot. From 1881 to 1899 he devoted much time to chamois hunting in the Val de Bagnes, the Tarentaise, and particularly in the Valpelline-Valtournanche district, where he was invariably accompanied by that good and cheery guide, Jean Baptiste Perruquet, who was also his companion on many of his climbs.[1]

He was an accomplished writer, and besides the book on Morocco already mentioned, wrote several articles giving delightful accounts of his experiences in chamois hunting, and jointly with Norman Collie gave the history of the three expeditions to the Canadian

[1] During the expeditions to the Canadian Rockies, he had also considerable success in the pursuit of those stately and elusive beasts, the big-horn sheep and the mountain goat.

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Rockies. In his later years his talents were employed in several works dealing with the methods of Roman Catholic priesthood, on which, as all his friends know, he held very strong views. It should, however, be stated that for such men as the present Pope he had the greatest admiration.

He was a born speaker and entertained the Alpine Club at several of the Winter Dinners with witty speeches full of gay humour. To his personal character I feel that it is difficult to do sufficient justice. He was the most delightful and amusing companion that anyone could desire, humorous, very sound in his judgments, considerate and good-tempered under all sorts of trying conditions, and always generous in his estimation of the capabilities of others. It was a lucky chance which led Alfred Simond to place me next to him in 1895 at *table d'hôte* at Montenvers, when we struck up one of those close friendships which so frequently happen in the Alps. I owe to this lovable man many of the happiest days which I have spent in the mountains. He will be missed much by his many friends in the Club to whom he was familiarly known as 'Stuttles.'

S. S.

HERBERT VINCENT READE.

(1870–1929.)

Herbert Vincent Reade was the Squire of Ipsden, Oxon. He came of an ancient and honourable family born and bred at Ipsden since about 1665, and he himself succeeded to the estate in 1884 on the death of his father, the Rev. Henry St. John Reade, who had been a master at Haileybury College and was later Headmaster at Oundle. Charles Reade, the novelist, who was born at Ipsden, was Herbert Reade's great uncle, and his mother was Frances Ann, daughter of the Rev. W. Vincent, vicar of Chipperfield, Herts, a descendant of William Vincent, Dean of Westminster. Thus on both sides of the family he had learned literary forbears.

Herbert Reade was born at Haileybury on April 30, 1870. He was educated at Haileybury College, entering Corpus Christi College, Oxford, as a scholar in 1889 when he took Second Class Moderations in 1891 and Second Lit. Hum. in 1893. In 1894 he entered the Secretaries' Office of H.M. Customs, London. In 1908 he became the Principal of the Statistical Office and remained there till 1920, when he became head of the Intelligence Department. Here he showed outstanding talents as a statistician and economist, and for several years his duties included the preparation of revenue estimates and advisory duties in connexion with the annual budget. His services were recognized in 1912 by the award of the C.B. (Civil Division). At the time of his death he was Assistant Secretary, having control of Old Age Pensions and of many important matters connected with the proceedings of the League of Nations.

In 1896 he married Hannah Georgina, second daughter of the

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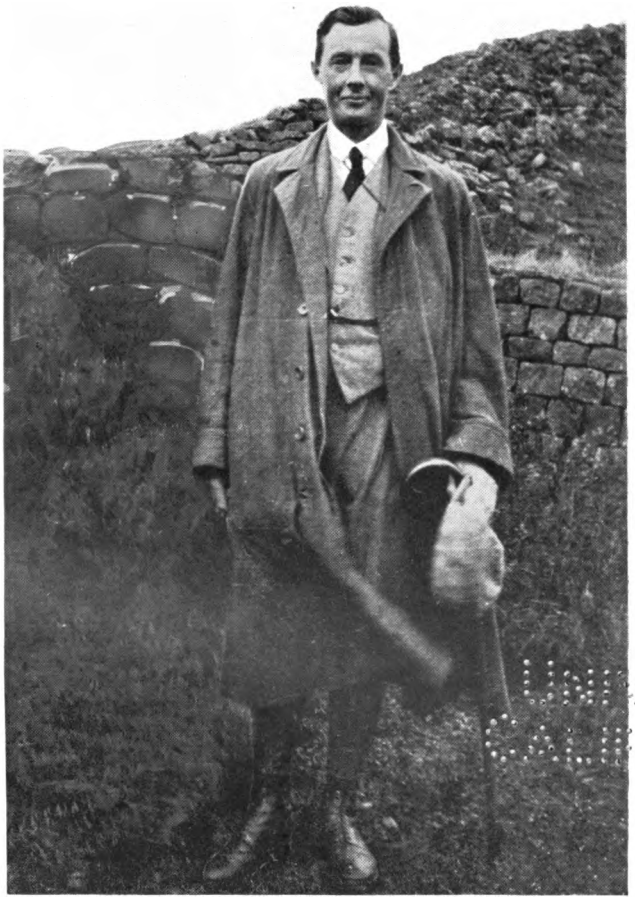

HERBERT V. READE.
1870-1929.

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Rev. Edmond Thomas Butler, who survives him. There is no issue. He died on August 13, 1929, after a brief illness, and was buried at Ipsden in the presence of a large concourse of his friends and tenants.

Herbert Reade began Alpine climbing in 1892 while still an Oxford undergraduate. His companions then were E. F. M. Benecke and H. A. Cohen, who were lost climbing in 1895 and whose bodies have never been found; they took a holiday of eight weeks and five days at a total expense of £51! His notebook for that year records that they did four big climbs and two lesser climbs with guides, and four lesser peaks, one glacier pass and one low pass guideless. Complete records of all his Swiss climbs are contained in sixteen notebooks, all carefully docketed and annotated, which was characteristic of the man. He climbed in the Alps from 1892 almost without intermission to 1914, when the Great War put an end to all climbing. His last season in the Alps was 1920, though he still loved to spend short holidays in Wales and in the Lakes, and was a regular attendant at the climbing parties at Penn-y-Pass.

Herbert Reade was spare in build, lithe and light, with the rosy cheeks of a schoolboy. Age touched him tenderly, and at fifty he did not appear a day older than he was at thirty. To him the mountains were a real delight, yielding him his highest pleasure. 'A good man on a mountain' was how Farrar used to describe him, but he was more than that, for he excelled on rock and he seemed at his happiest on a steep, smooth, wet slab, to which he appeared to have an uncanny capacity of adhering, which was sometimes the despair of a heavier companion.

Though the mountains occupied a large part of Herbert Reade's thoughts and were his great delight, latterly the management of the Ipsden estate absorbed more and more of his leisure and interest. He was an ideal landlord, caring for the needs of his tenants with a justice so tempered by mercy that his pockets were impoverished in the process.

In manner he was reserved and reticent, so that casual acquaintances were apt to think him cold, severe and portentous. To those who knew him he was an ideal companion, gay, witty, deeply versed in the classics and *belles-lettres*, above all reliable and single-minded. But his outstanding characteristics were his uprightness and sincerity of purpose, and no one could meet him without being impressed by his high sense of honour and justice.

Some years ago a proposal was made to alter the Club rule that no member of the Committee should serve twice. Reade was instrumental in having this rule reversed, and, as Farrar said, he was the one member of the Club who could have proposed it then, as no one would suspect Herbert Reade of doing it to suit his own purpose.

He has now joined the Immortals, but his memory lives among his friends as a shining example of a man who had clean hands and a pure heart.

G. E. G.

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ROBERT F. NORTON.

(1854–1929.)

As one who was privileged to be a friend of Robert Norton and was frequently associated with him in his profession and also in his many expeditions to the Alps, I have been asked to undertake the melancholy task of writing an obituary notice for the ALPINE JOURNAL.

Robert Norton and I were members of a group of friends and friends of friends who, with a continuity from the 'eighties of the last to the opening of the present century, almost constituted a corporate body devoted to exercise and recreation in the Alps. With one exception—a well-known member of the Alpine Club who early fell out of our ranks to take up more ambitious work—none of us claimed to be a climber in the modern meaning of that word.

It was our practice, if possible, to spend all our long vacations in the Alps. We loved the Alps, the contact with nature in one of its grandest forms, the people and the delightful exercise, and with our rucksacks and other *impedimenta* we investigated on foot, sometimes with and sometimes without guides, most of the principal districts from the Tarentaise to the Eastern Alps, mainly by passes, but often combining the ascent of a peak. To mention a few I may specify the Aiguille de la Grande Sassière, Monte Viso, Col du Géant, Blümlisalp, Monte Disgrazia, Strahlegg Pass, Ortler, Koenigsspitze, Zebrù, Cima Tosa, Gross Glockner, Hochfeiler, Punta San Matteo, M. Confinale, Piz Aul, Wildspitze, Weisskugel, Giudicaria and Pala Groups, and this enumeration, although, of course, all were not able to take part in every expedition, shows, I think, that the group collectively had a comprehensive general knowledge of the Alps. Later, Norton ascended the Grand Combin and the Dent Blanche.

Those of us who survive are no longer able to bear the strain and long hours of those former expeditions, but one and all look back on them as among the happiest moments of our lives.

Norton was the very soul of the party. He it was who generally worked out the programme for the season and made the arrangements. His untiring energy, yet kindly and unselfish consideration for his colleagues, his cheerfulness and resource in difficulties, marked him out as our leader and endeared him to us all. He was, moreover, well versed in the local history and literature of the countries, especially of the Italian districts, for which he had a great *penchant*. He passed away on the 8th of August last after a long illness, at the age of 75 years. He was the son of the late Mr. Frederick Norton, Principal Clerk in the Chancery Taxing Office; he graduated B.A. at the London University in 1874, and LL.B. in 1877. In 1879 he was called to the Bar at Lincoln's Inn, of which he was subsequently elected a Bencher. After holding several offices under the Inn he

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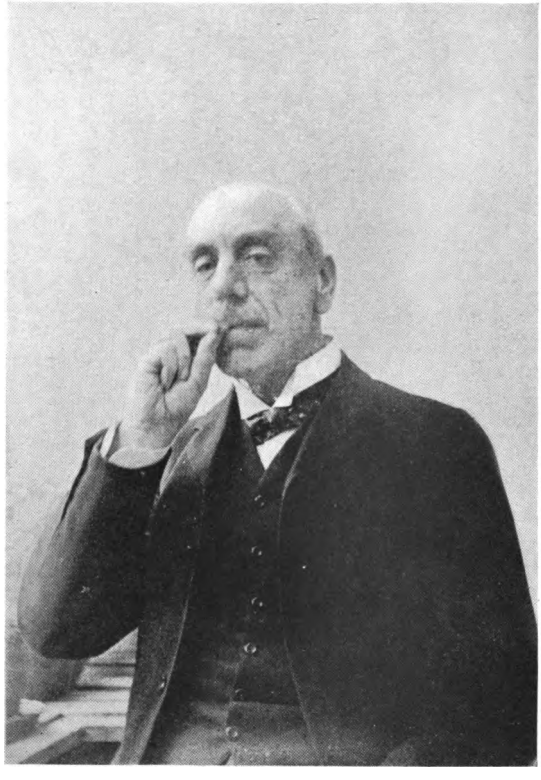
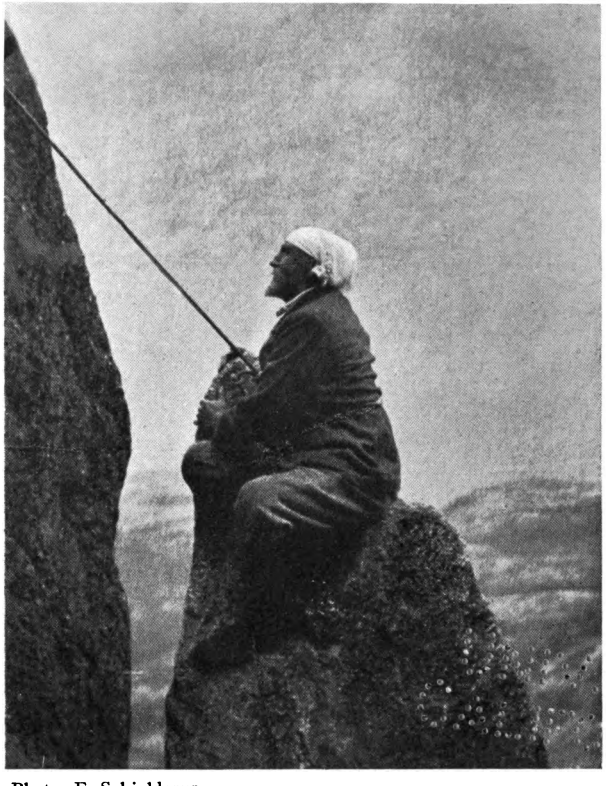


R. F. NORTON.
1854-1929.



Photo, F. Schjelderup.

W. CECIL SLINGSBY
on STANDAATIND, 1912.

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received, in the current year, the greatest honour that an Inn of Court can confer, the appointment as Treasurer, which, however, owing to failing health he reluctantly had to resign.

His work at the Chancery Bar was of the highest class. He took silk in 1900 and was one of the joint authors of the standard work 'The Interpretation of Deeds.'

Notwithstanding the heavy claim of his professional engagements he found time for many other activities. He was an enthusiastic member of the Inns of Court Volunteers, retiring as Lieutenant-Colonel, V.D.

During the war he assisted the Commission appointed to inquire as to the treatment of the British prisoners in Germany; from 1916 to 1919 he was Legal Adviser to the Board of Trade on trading with the enemy, for which he was awarded the C.B.E. Later he was appointed to the Commission on Awards to Inventors in connexion with the war.

Further, in 1914 he became one of the Governors of Queen Anne's Bounty. Another voluntary and most important service which he undertook was as a member of the Governing Body of King's College Hospital, which he joined in 1914; he became Vice-Chairman in 1916 and acted as Chairman for long periods during the absence in Egypt of Lord Hambleden, and on his death Norton was elected Chairman. Testimony of colleagues and others is unanimous that to any work or post which he undertook or accepted he unsparingly and without the least self-advertisement brought his marvellous energy, sincere devotion, and the full benefit of his sound judgment and common sense.

This perhaps is not the occasion for me to refer to my personal feelings, still I cannot refrain from expressing my own deep sorrow at the loss of a dear friend whom I, and I am sure everyone who enjoyed the privilege of knowing him well, loved and respected.

R. B. YARDLEY.

C. MYLES MATHEWS.

(1878–1928.)

C. MYLES MATHEWS was born on August 16, 1878, the son of Charles Edward Mathews, the famous mountaineer and sometime President of the Alpine Club.

At Uppingham and King's College, Cambridge, he had a distinguished career, taking a First Class in the Natural Science Tripos, becoming an Honorary Exhibitioner and gaining a half-blue for swimming, being Captain of the team for two years. He was articled as a solicitor, securing second place in the First Class of the Law Final, 1904, and becoming Clifford's Inn Prizeman as well as a Gold Medallist of the Birmingham Law Society. At a later date

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he became a partner in his uncle's firm, F. C. Mathews & Company, and ultimately assumed the whole responsibility for this business.

His professional work had a high reputation and was varied and strenuous. His briefs for counsel were noted for their literary merit as well as for the perspicacity of their argument. His advice was always eagerly sought, and was as conspicuous for its humane and sympathetic insight as for its sterling common sense.

During the war he joined the Special Constabulary in addition to his many other activities. He served two years as an Inspector, and a further two as Chief Inspector. He remained in the reserve of officers until his death.

In 1905 he married Miss Edith A. Meredith, who shared his manifold tastes and interests, and he leaves two daughters and a son.

The whole of his life, prematurely cut short, was spent at work, but as a boy he passed his holidays at his father's cottage 'Caer Saer,' near Machynlleth, and this early association established a devotion to the Welsh mountains which only grew with time. At Pen-y-gwryd, of which his father was one of the early discoverers, his signature appears first in 1900, but this cannot have been his first visit. He remained a regular visitor, and had climbed most of the earlier routes discovered upon the Welsh cliffs as well as remaining admirably informed about later explorations. In recent years he spent a number of Easters climbing upon the sea-cliffs of Cornwall.

He first visited the Alps in 1892 at the age of thirteen, and ascended Mont Blanc with his father, thus establishing what was then considered a record. Before he was twenty-one he had twice again reached the summit. In 1899 he was elected to the Alpine Club, his qualifications including Mont Blanc, Aiguille and Dôme du Goûter, Aiguille du Tour, the Charmoz, the Cols d'Argentière, du Chardonnet and du Géant, Monte Rosa, Wellenkuppe, Ober Gabelhorn, Wetterhorn, Triftjoch, etc. His list of proposers and supporters is worth recalling—Alfred Wills and Leslie Stephen; C. E. Mathews, Horace Walker, C. T. Dent, T. G. Bonney, Edward Whymper, Charles Pilkington, and Martin Conway. Circumstances prevented his returning frequently to the Alps, but he was able to visit them once or twice again after the war.

Of the Climbers' Club he was an original member. After serving upon the Committee, he became Secretary in 1908, and remained so until 1925 when he was elected President. His devotion and businesslike energy, inspired by a great loyalty to his father's memory and a romantic attachment to all things that were of the mountains, made him the mainspring of the Club life for many years. During the war and the after-reaction it may be said to have owed its continued existence to him. He left it with its membership larger than it had ever been before.

Much of his best work for it was done as editor of the Bulletins which he originated, and as, recurrently, editor or part editor of

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C. MYLES MATHEWS.
1878-1928.

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the Climbers' Club Journal. He was largely responsible also for the production of the Welsh Mountain Guide Books, the first produced among us and which set the model for the rest. He wrote in a vivid, humorous and trenchant style, and his reviews, poems, and articles in climbing and other publications were often remarkable and always individual.

Besides being a critic he wrote plays and upon literary themes, and he possessed an immense knowledge of the English Poets. Like his family, he was a keen student of the theatre. He acted well, and interested himself in the productions of Vedrenne and Barker, forming a close friendship with Vedrenne. He was Organising Secretary of the third International Art Congress, and edited various publications in connection with it.

Of music he was a first-rate connoisseur, and sang at Cambridge and three times in the *Matthew Passion* at Ely under Sir Hugh Allen. It seemed inevitable that he should also be an expert in food and wines, and a witty, laughter-provoking talker.

At Club dinners for many years he was a welcome guest because of his very considerable gift of after-dinner speaking. In this he carried on and developed his father's tradition, and, at his best, he could rise to a height of moving and even poetic eloquence.

A man built upon an emphatic scale, bulking large both in gaiety and in pugnacious argument, with a caustic and sometimes roughly critical tongue, it is probable that only those who came by force of circumstance or by habit to know Myles Mathews well ever discovered a quarter of his exceptional gifts or adequately appreciated his splendid sincerity, his tolerant wisdom, and the essential gentleness of his nature. There are men whose sheer vigour of evident personality obscures somewhat the exceptional talents and qualities which compose its substance, but the mountains, mountaineering, and his fellow-mountaineers have never had a more poetic-minded, big-hearted and capable votary, exponent and helper, nor his friends a more sage, unselfish and lovable friend.

S. B. D.
G. W. Y.

VALÈRE ALFRED FYNN.
(1871–1929.)

VALÈRE ALFRED FYNN died of blood-poisoning at St. Louis, U.S.A., on March 20, 1929, in his fifty-eighth year. He was elected to the Alpine Club in 1911.

Born in Russia, where his father was engaged in building the Imperial Railways for the Czar, Fynn received a first-class engineering training in Germany and at the Swiss Federal High School in Zürich. After serving with Brown and Boveri, the well-known firm of electrical engineers of Baden, near Zürich, he took up consulting work in this country until 1909, when he was appointed

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consultant in electrical engineering to the Wagner Electrical Corporation of St. Louis. His career in the U.S.A. was an extremely successful one. He invented and perfected a new type of alternating current motor which now bears his name—a fitting monument to his great ability and work as an inventor and electrical engineer.

Fynn was acknowledged by no less an authority than the late Captain Farrar as the best guideless climber [1] of his time. He was essentially a pioneer, extremely active and keen, and as such contributed largely to the discovery of new climbs both in the Alps and in Canada.

I have been unable to trace records of Fynn's earliest climbs, but as far back as 1895 he discovered a new and difficult route now known as the 'Fynn Weg' on the Mürtschenstock. In 1905 he was elected to the Academic Alpine Club of Zürich on the strength of a remarkable list of climbs, many of which were new. In the following year he made the first ascent of the Bifertenstock direct from the Biferten Glacier, a formidable undertaking which to-day justly ranks as the finest climb in the Range of the Tödi. In the same year he launched a successful attack upon the tremendous N.E. face of the Finsteraarhorn,[2] an ascent involving two bivouacs, the second of which he and his companion, A. Brüderlin, spent sitting in rope slings. Fynn also made the first ascent of the Sonnigwichel, a bold granite peak near Amsteg. In doing so it was typical of him that he avoided the one and only obvious line of approach to the summit—long since degenerated into the 'ordinary way'—and completely traversed the whole ridge, a climb which, from the point of view of difficulty, bears comparison with the Grépon traverse. Amongst his other outstanding Alpine climbs may be mentioned the Lauteraarhorn (N.E. face, second ascent) and the N. or Argentière face of the Aiguille Verte.

Fynn's prowess as a leader and pioneer stood him in good stead when, on settling in St. Louis, the Canadian Rockies and the Selkirks became his chief fields of mountaineering activity. He contributed to the JOURNAL numerous beautifully illustrated accounts of his climbs in those regions. Climbing sometimes guideless, even occasionally alone, and later with a Swiss guide, Rudolf Aemmer, with whom he eventually formed a close friendship, Fynn carried out several remarkable ascents, of which some of the more outstanding are probably Mt. Louis (first ascent by the E. face; considered to be the most difficult climb either in the Canadian Rockies or the Selkirks), Mts. Hadow, Aberdeen, Colyer, the Devil's Thumb, Mt. Whyte (new routes), Mts. Lefroy, Quadra, Freshfield, Glacier Peak (Mt. Victoria; second ascent and first traverse, an immense

[1] Taking him all round, fair weather and foul, it is unlikely that Fynn, among amateurs, has ever had a superior.

[2] The second ascent of this face and so far not repeated (*A.J.* **34**, 379–87).

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VALÈRE A. FYNN.
1871-1929.

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ridge climb), Temple (new routes), Barbican, and Geikie (both first ascents), and Mts. King George and Assiniboine.

In 1911 I was privileged to be one of a party of six led by Fynn over the Matterhorn from the Schönbühl to Breuil. It was a unique and never-to-be-forgotten experience to be led and *looked after* by such a man. Conditions were far from good and the weather threatening; but throughout that long day our leader, brimful of his characteristic good humour and with the example of his own remarkable prowess always before us, inspired and maintained our confidence in our mastery of the mountain. On the Tiefenmatten face, where conditions were bad, there could be no hesitating when Fynn cheerily advised us youngsters to 'Just take your time and put your feet down as if the mountain belonged to you, my boys!'

In Fynn we have lost, as in Farrar, another Bayard of the Alpine Club. In their premature death, it seems almost fitting that these two great mountaineers and friends—together with their sometime companion, Herbert Reade—should have left us at nearly the same moment.

G. I. F.

GRAF HANS z. TOERRING-JETTENBACH.
(1862–1929.)

By the death of this well-known sportsman and mountain-wanderer the Bavarian and Tyrolese Alps lose a distinguished and prominent figure. If Hans Toerring, in the modern sense of the word, cannot be described as a great mountaineer, he will be remembered as one of the foremost authorities in Europe on the flora and fauna of the Alps. A magnificent shot with a rifle, a sportsman in the fullest sense of the word, he had hunted mountain-game from the forests of Lithuania to the Carpathians and Dinaric Alps. He possessed a wonderful collection of Alpine heads, stags, chamois, and roe-deer.[1]

Of retiring disposition and reserved manner, it is difficult to speak of his varied interests and accomplishments. Behind the scenes the influence of Hans Toerring was enormous. Moreover, this influence was not only great and good but always directed in the truest interests of his beloved Bavaria. Tall and distinguished, dignified in presence yet democratic in manner, gifted with a great and versatile brain tempered with the soundest common sense, it is only in death, perhaps, that his country and friends will realize how great is their loss.

Hans Toerring was born on April 7, 1862. He was head of a very ancient Bavarian family, and was connected with the Erskine and Howard families through his Scottish grandmother. He married in 1898 H.R.H. Princess Sophy, Duchess of Bavaria, a younger sister of the Queen of the Belgians, who survives him. He leaves two sons and a daughter. His death came from sudden heart failure, on October 28.

[1] His finest stag was his last, shot in the Bavarian Alps, on Oct. 15.

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Although it is nearly twenty years since we climbed a mountain together—Piz Lischanna, in 1910—as a loyal and lovable friend, gifted with the most subtle sense of humour, his memory will be with the writer always.

E. L. S.

JOSEPH SEILER.

(1858–1929.)

GLETSCH had lost many of its attractions when the horses had been finally replaced by the motors; but, until this year the central thing, the Spirit of Gletsch remained in the stalwart figure, the gentle movements, and the kindly face of Joseph Seiler. Quietly, unobtrusively, unobserved, he, behind the scenes, noticed everything, welcomed old friends and saw to it that they got the best of everything, while the crowd of passing tourists alighting from the constantly arriving motor posts and cars never wanted in vain. A wonderful organization: everything ordered to a nicety; a dozen sleeping in the house one night and a hundred the next, and the catering and service never strained. A Swiss *Gesangverein* in a char-à-banc and a party of shrill-voiced Americans in another vying as to which shall be heard; and Joseph unperturbed, courteous, low-voiced, seeing that everyone is attended to.

Gletsch, grown from a modest coaching-house to its present great establishment, with its *dépendance* and the hotel at Belvedere, all belonged to him, as did all the land around which he farmed, so far as such land can be farmed. And his interest in the people of the valley, as in those of his native town of Brigue, was as keen as in his many-sided business. There was plenty to absorb his time and fill his mind; but the thing he loved most of all—his horses—had gone. In the old days this had been his first interest, and, in addition to his private and livery stables, over a hundred animals were employed for the five-horse post-diligences over the Grimsel and the Furka. He bought the horses and saw to the shoes, the harness, the coaches, the wheels, and the drivers, and during the thirty years that he was responsible for these services there was not a single accident on those dangerous zigzag roads.

Joseph was the firstborn of the family of sixteen begat by Alexander Seiler, the founder of the Zermatt hotels, and his wife: and the family name is inalienably associated with Zermatt. But the home of the Seilers was at Brigue, where Joseph was born in 1858, and named after his uncle who was at that time president of the well-known college. Six of the family yet survive: Jules (Rev. Dr.), Hermann (Ind. Dr.), Madame Imfeld of the Monte Rosa Hôtel

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at Zermatt, two sisters privately married, and Catherine, the companion and helpmeet of Joseph at Brigue in the winter and at Gletsch in the summer, to whom I am indebted for many of the details here recorded—a lady as affectionately regarded by the large circle of their British friends as was Joseph himself.

Joseph Seiler was brought up at Brigue, where he studied at the college, but later on he went to other institutions out of the Canton and finished his education in Rome and, finally, in London. It was here that he laid, well and truly, the foundations of his life-work. Starting at the foot of the ladder he went through all the stages, in addition to acquiring a knowledge of languages, of the customs and habits of society, and the world outlook which served him so well in later years.

His liberal education completed, Joseph joined his father at Zermatt, first assisting in the management of the old Riffelhaus, and, later, as manager of the Mont Cervin Hôtel. But, in addition, he was his father's right-hand man and saw to the general catering of all the hotels, which involved, among other duties, the sending off at dawn every day of some fifty or sixty mules from the square in the village.

But in 1892—a year after his father's death—Joseph left the Zermatt activities to other members of the family and went to Gletsch, and the rest of his life was devoted to the Rhône Glacier area. But though Gletsch was his summer work and his twelve-month problem, he lived for eight months of the year mostly at Brigue, where, in addition to the lively and practical interest he took in the development of primary education, he was Mayor during the important years when the Simplon tunnel was being made. This brought him into intimate and friendly relationship with many prominent Italians, and he was often at Domodossola, where he became a favourite, and eventually acquired a villa, in which he spent the winter months during the last years of his life.

Joseph Seiler held a national as well as a local and cantonal position, and his advice was often sought by the Federal Authorities. His absolute probity, his sound judgment, his self-sacrificing activities, and his kindness of heart were patent to all and were universally appreciated; and many were the honourable titles with which he was accredited.

In his younger days he had been a first-rate mountaineer, and he never lost his interest in climbing and in climbers, while his affection for the early English climbers at Zermatt was extended to the generations that succeeded them: and both they and their guides were always accorded a warm welcome and exceptionally generous treatment. But apart from mountaineering Joseph was an all-round sportsman, and especially a horseman; and until the last few years he rode every day. His 'hobby' lay in collecting old furniture, and coloured prints of Swiss landscape. Many examples of both, and especially his unique collection of prints of the Rhône Glacier, are familiar to those who have made a temporary home at the

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comfortable hotel where Strutt and I last saw him and bade him adieu in July 1928.

The winter of 1928–9 he spent in good health at Domodossola, but returned to Brigue in the spring where, after a fortnight of uncomplaining illness, he passed to his well-earned rest on May 25, 1929.

A great procession followed the cortège to the cemetery at Glis, while at Gletsch the initials ' J. S.' in white stones form the centre of a naturally grown wreath of Alpenrose overlooking the valley, the growth of which he had watched for years and proclaimed to be his memorial wreath. It was in ' affectionate remembrance ' that these stones were laid, a tribute in which this Club, and many of its members individually, would wish to join.

C. W.

SAMUEL TURNER.

(1869–1929.)

MR. TURNER, who died very suddenly in Wellington (N.Z.) on August 8, was in many ways a remarkable man, having made his own way in life from a small beginning to a successful and prosperous position. A native of Manchester, born in 1869 and educated at the Manchester Technical School, he ultimately went into the produce trade representing large butter interests which took him to various parts of the world and finally to New Zealand in 1911, where he settled down.

Being an enthusiastic climber, he took the opportunities afforded in his business journeys to climb in many countries, while in N.Z. he spent eighteen years of vigorous and successful Alpine work, which included practically all the big peaks. He also did some important exploration in the district round Mt. Tutoko near Milford Sound, and this year made the first Alpine ascents on the Hooker Range and the district behind Lake Wanaka. Most of his New Zealand work and his experiences in other countries have been very fully recorded in his books: ' My Climbing Adventures in Four Continents,' ' Siberia,' and ' The Conquest of the N.Z. Alps '—books which raised a considerable amount of controversy owing to claims made by the author. The chief ambition of his life, so he told the late Captain Farrar, was the conquest of Everest. Circumstances were against him.

Mr. Turner did not belong to either the Alpine Club or New Zealand Alpine Club, as he was one of those keen and self-centred men who find it hard to work with others, a failing which undoubtedly caused antagonism, but in spite of this his ability, his remarkable energy, and his unbounded enthusiasm mark him as an outstanding climber who has a record equal to that of any other in the Southern Alps. It is pleasant to hear that his mountaineering skill has descended in even greater measure to his son.

A. P. H.

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NEW EXPEDITIONS.

Mont Blanc Group.

MONT MAUDIT, 4471 m. = 14,669 ft. By the S.S.E. face. August 4, 1929. Signori Amilcare Cretier, Lino Binel, and Renato Chabord. On the true right (W.) of the face there is a big rock rib which rises up and joins the frontier ridge at about 125 ft. from the summit. This rock rib in its lower part has on its true left, N.E., a red buttress of pinnacle shape about 1000 ft. high which appears to hold up a large triangular snow patch lying above the lower part of the face.

The route is first up that buttress, afterwards it slants alternatively on rocks and snow so as to reach the big rock rib at an altitude of about 4200 m., where it forms a small snow shoulder. Afterwards it continues along the rock rib which in its upper part ends in a very narrow snow arête. Times : left the C.A.A.I. shelter (about 3100 m.) 01.30. Stopped on Brenva Glacier (below La Fourche) 04.20–04.50.

Stopped at top of red buttress (about 4000 m.) 11.10–11.30.

Stopped at snow shoulder (4200 m.) 15.00–15.15.

Reached frontier ridge 19.15.

In good conditions this route could be followed in 7–8 hours. The party encountered a great quantity of fresh snow on the rocks, making progress very slow and difficult.

Bernese Oberland.

ALETSCHHORN, 4182 m. = 13,721 ft. Byt he S.E. face. August 29, 1929. Monsieur E. R. Blanchet with Kaspar Mooser and Linus Pollinger. Party left Hôtel Jungfrau, Eggishorn, at 00.15 and attained angle between Aletsch and Mittel Aletsch Glaciers at 03.15. Latter mounted throughout its length, base of S. rocky face of Aletschhorn attained at 08.15. (From 05.50 till 08.15, party contoured round by the right, avoiding a very crevassed and broken-up zone. The end of this slant led them right under the summit after a risky traverse over fallen ice blocks under a sérac wall.) Three snowy tongues lead up from the glacier between the ribs of the rocky face. Party, reckoning from the left, steered towards the rib between the first two tongues. Rib attacked at 09.45 (despite shower of small falling stones lasting 20 mins.). The first rocks resemble light Chamonix 'granite,' are vertically split and afford good holds. After a small platform, level in height with the end of central snow tongue, rocks become much darker and rotten. Platform attained by a diagonal climb to the left, crossing two couloirs. A well-marked rib soon reached; this leads towards the summit bearing somewhat to the right. At this spot, 10.35, good reddish rocks; small cairn built. Thence some 20 metres become excessively steep, followed by abrupt and complete stoppage of direct

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ascent. Party accordingly bore to the *left* round a corner by a smooth ledge, and *descended* diagonally to the left—very awkward—to a deep-cut couloir, still snowy, where water flowed. This descent to the left is the key to the ascent of the face.

Party followed for a long time true left bank of the said couloir formed of slabs like the tiles of a roof. Gradually couloir becomes easier and bifurcates into a kind of U. Go up the true right bank of the right branch, to the left of the great rib. Level of point 3966 m. (*S. map*), seen to the left, attained at 12.15. At 12.40 party regained the great rib; halt 12.55–13.10. At 13.30 snowy buttress attained coming from the right, S.E. arête[1] also appearing quite close. Over aforementioned snowy buttress, very icy, to the summit, 14.15. Descent to Belalp, 20.15.

Expedition is enormously long, first 8 hours accomplished without a halt. Great danger from séracs before attaining base of S.E. face, on which stones are very frequent, especially in lower third. Difficulties, however, never very serious.

E. R. B.

[This appears to be the first ascent of the Aletschhorn *direct* from the Mittel Aletsch Glacier, but on August 30, 1928, Mr. J. W. Alexander, with Oscar Supersaxo, attained the summit by a route that can be described as 'by the E. arête attained from the S.' From a bivouac near point 2651 m. (*S. map*), to the E. of the Mittel Aletsch Glacier, starting at 05.00, the first party, hampered by much fresh snow, attained the base of the S.E. face (to the E. of spot attained by the 1929 party—*Editor*) at 10.00. Direct ascent to summit impossible owing to conditions, party accordingly kept to the right, E., of a plainly marked rocky rib and mounted by good rocks and patches of snow. Up to this point a fine climb of no special difficulty; higher up, however, party, forced under dangerous and overhanging eaves of ice, climbed upwards by an extremely difficult and nearly vertical rock step, about 100 ft. high. Thence over much easier snow and ice to the easy E. arête followed over snow and rocks to the summit, 15.45.—Communication from O. Supersaxo through Dr. Lauper.]

Scheidegg Wetterhorn (*Grindelwald Dru*), 3474 m. = 11,201 ft. By the N.W. face. September 10, 1929. Dr. N. S. Finzi with Franz Josef Biner[2] and Josef Knubel of St. Niklaus. Party left Grosse Scheidegg at 05.06, following that ridge or just below it to base of face. From this point a chimney leads upwards to a series

[1] It was by this arête, starting from the Mittel Aletschjoch and passing over point 3966 m., July 10, 1898, that Messrs. Wilson, Wicks, Bradby and Kesteven attained the summit.—*A.J.* **19**, 251.

[2] Son of the late J. M. Biener, see p. 282. The name is now spelt as above.

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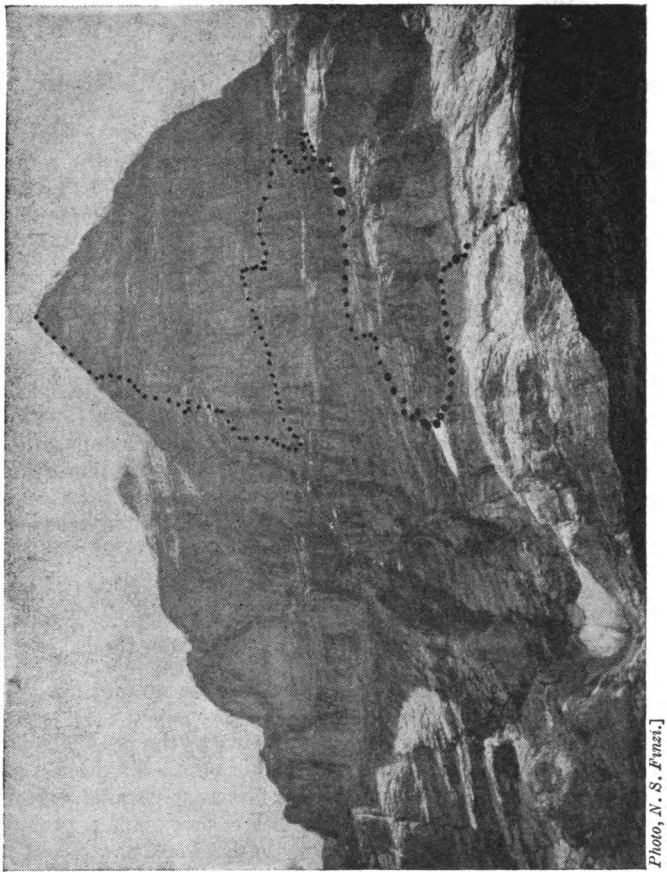
of ledges separated by rocky steps in which there are chimneys. Route leads at first to the left, N.E., and then a long way to the right, S.W. Eventually a ledge is followed back to the left whence a difficult chimney leads to a level platform (*ca.* 9500 ft.), just under the enormous tower near the centre of the face or wall (09.40–10.05). Another terrace or ledge now leads to the left, slightly



Photo, N. S. Finzi.] SCHEIDEGG WETTERHORN (foreshortened) showing 1929 route.

downwards, until it reaches that part of the wall facing rather more to the N. From here a chimney containing two large reddish hollows leads up to a small platform. Thence a long and difficult chimney, splaying out eventually in the face, is climbed; next comes a diagonal traverse to the right, S.W., to a large platform. (A piton was fixed at the start of the traverse and a *karabiner* proved necessary also; the step is about 120 ft. high.) The face is then climbed

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up to the peak's N.W. ridge, *ca.* 10,300 ft., which is then followed to the summit, 15.10. Descent by Hühnergutz Glacier to the Gleckstein Hut, 21.00 hrs.

Kletterschuhen are essential, as rocks are very smooth, sloping at a very high and wrong angle. Ledges must be absolutely dry and fine, settled weather is essential.

[This splendid—despite the use of artificial aids—expedition solves one of the remaining problems of the Alps; the N.W. face has been attempted on countless previous occasions. It is, we believe, only the second ascent of the Scheidegg Wetterhorn, the first ascent of which was made May 13, 1901, by Herr G. Hasler with Christian Jossi and Peter Bernet ('A.J.' **20**, 466–8, illustrations facing 467, and **33** facing 457) by approximately the same—S.W.—line taken by Dr. Finzi's party in the *descent*. The account of the attainment of the *Schwarzwaldfirn*, on the N.E. slope of the Scheidegg Wetterhorn, direct from the N., is given in 'A.J.' **41**, 210–11.—*Editor.*]

Drakensberg Mountains, Natal.

In its annual camp of July 1929 the Natal Mountain Club had its base camp in the Ingangwana Valley of the Garden Castle district, at an approximate height of 6300 ft., about 3 miles above Houston's farm, some 70 miles S. of Mont aux Sources, in a comparatively unexplored region, most of the summits of the main chain hereabouts not having been previously ascended.

In the fortnight available different parties accomplished the following three first ascents:

Thamatuwe, *ca.* 10,300 ft. This is the square-shaped summit which is a conspicuous feature at the head of the valley. The party of Messrs. Botha-Reid and Marriott ascended it from the E.

Peak at Head of Umzimkulu Valley. This summit lies W. of and rises above the main ridge of the Drakensberg. It appears to be distinctly higher than either Thamatuwe or the peak which we climbed. A party led by Mr. R. R. Butcher climbed it from a subcamp in the Umzimkulu valley, which is the next parallel valley to the N. of the Ingangwana valley, and below Swaimana; probably the most remarkable rock formation in the Drakensberg.

Peak immediately to the N. of Thamatuwe. On July 12, 1929, Dr. Park Ross's party, *i.e.* Miss J. Braby and Messrs. Park Ross, R. Murray, G. Murray, M. P. Frank, and O. K. Williamson, having left the main camp at 08.45, ascended the main valley for about a mile and then diverged up the first valley on its true left. They ascended the slopes on the true right of this, leading up to a mountain lower than the main Drakensberg and consisting of the red beds overlaid by cave sandstone, the latter being weathered

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into numerous fantastic pinnacles and rocking-stones. As, however, this route would have involved too long a détour the party traversed slopes which again led them down into the main valley, which they then ascended to its head. They thus reached at 11.30 a grassy col on the edge of a plateau, affording an uninterrupted view of the main chain of the Drakensberg. Our peak showed on the right of Thamatuwe and rose approximately 2000 ft. above our point of view. A slight descent now took the party to the actual foot of the peak, at which point a stream in a subsidiary valley was reached. There is a well-marked rib descending at about the middle of the E. face of the mountain. The foot of this, set at a steep angle, was reached on its true left side by ascending a very steep grassy slope, and this side of the rib was ascended. The cave sandstone of the face gave place on the rib to the lavas of the Stormberg series, characterizing the highest peaks in South Africa. The work consisted of hard, frozen glassy slopes, with patches of snow interspersed here and there with rock, much of the latter forming ledges such as are typical of the Drakensberg. There was no real difficulty, but the climbing, on account of the hard frozen surface, necessitated care. This sunny side of the rib appeared preferable to that on its right, which looked very uninviting. At the top of the rib the steep slope suddenly emerged, at about 300–400 ft. below the summit, in a gentle slope, now covered with hard snow, which led up to the final rocky wall. The first obstacle in this was a band of rock some 40 ft. in height extending round the final peak as far as could be seen. An open chimney on the S. aspect of this wall, and so facing Thamatuwe, was chosen as the only obvious route. The rocks forming its true left were smooth, and it contained some snow and ice. It was ascended, however, traversing in a leftward direction on good holds. A steep slope, consisting of boulders embedded in deep snow, soon led the party to a short chimney in the upper rocky wall, which was thus climbed without difficulty, and a short ascent over snow and stones led to the snow-covered summit ridge. This was 2 or 3 yards in width, was a narrow dyke of basalt, and fully 50 yards in length. At its further higher end a cairn was made, as no traces of a previous ascent were found. It was obvious that this peak formed part of the main Drakensberg ridge. Owing to the fact that there had been a heavy fall of snow some three days previously, and that the day was one of remarkable atmospheric clearness, being practically cloudless and windless, the views, especially in a northward direction, were more beautiful than any one of us (O. K. W.) had ever previously seen in the Drakensberg. Looking along the main ridge in a southerly direction the next peak was Thamatuwe, apparently of the same height as our summit. Beyond Thamatuwe rose 'The Knuckles.' Westward over Basutoland an extensive plateau now snow-covered was disclosed. This was studded with many peaks, several of which were obviously markedly higher than our point of view. Northward, the serrated main Drakensberg

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ridge showed up clearly, Hodson's Peak being prominent. Eastward, Mahaqa, above Bulwer, was the most prominent landmark, and southward from this one saw successively the Ingeli, Mt. Currie, the Chimney Peak, and Insikeni near Malenge. The descent was commenced at 14.55, the same route being followed as during the ascent, except as regards the détour, camp being regained at 18.15, the total halts during the day having only amounted to 1¼ hrs.

G. A. Park Ross.
O. K. Williamson.

VARIOUS EXPEDITIONS.

Dauphiné.

Aiguilles Méridionale, 3514 m. = 11,529 ft.; Centrale, 3512 m. = 11,523 ft.; Septentrionale d'Arves (Corne Sud *c.* 3342 m. = 10,965 ft.). Traverse. July 20, 1928. Messrs. L. R. Wager and J. L. Longland.

Arrived at site of new Refuge Lombard from St. Jean de Maurienne, July 18; found hut destroyed. Constructed, or rather improved, gîte made from wreckage, salved many of the utensils, including a small spirit stove. July 19, spent in exploration on S. Aiguille. July 20, left bivouac 05.35, arrived Col Lombard 06.15. By normal route up S.W. face to the Brèche Supérieure on the Southern Aiguille; there we roped up and reached the summit by the *Corra* variation. This pleasant and sound slab route (which incidentally is marked with arrows in red lead!) is much safer than the 'Mauvais Pas,' by which we descended on the doubled rope. [Times: summit 08.15–08.45; returned to Brèche Supérieure 09.15.] From the Brèche we descended the E. face to the Glacier de Gros Jean in 65 min.

We then traversed across the Glacier de Gros Jean and attained the E. ridge of the Central Aiguille by the right hand of one of two easy couloirs that lead up to this ridge from the S. From this time we began to be badly hampered by cloud, and in fact never got a clear view of the route off the Central Aiguille, nor anything but glimpses of the N. Aiguille. From the well-marked shoulder on the E. ridge we took the northerly or 'primitive' route up a fine slab to the summit (time, 13.10), descending to the shoulder by the usual traverse on the S. face. From then we had difficulty in the cloud in locating the proper couloir, but eventually reached the Glacier des Aiguilles d'Arves by the short couloir (Route C in Coolidge, *Central Alps of the Dauphiny*, p. 33), very near the snout of the glacier. We reached the Col des Aiguilles d'Arves, left our rucksack, and hastily climbed the Corne Sud of the N. Aiguille. We had hoped to add the N. summit as well, but were prevented by the lateness of the hour and because the route was invisible in clouds.

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We reached the Col des Aiguilles d'Arves and descended it on the Rieu Blanc side by a steep iced couloir; thence by a short ice-slope to the top of one of the slate ridges that run down from the peaks on this side. From here we made a horizontal and exceedingly toilsome traverse across these steep-lying scree ridge and furrows, to reach the Col Lombard at 20.10. Thence to our bivouac at 20.35 hrs.

[Times:

Left Bivouac	05.35
Col Lombard	06.15–06.25
Brèche Supérieure	07.10
S. Aiguille	08.15–08.45
Brèche Supérieure	09.15
Glacier de Gros Jean (lunch)	10.20–11.00
Aiguille Centrale	13.10
Glacier des Aig. d'Arves	15.15–15.30
Col des Aig. d'Arves	15.55
N. Aiguille (Corne Sud)	16.15
Col Lombard	20.10]

PIC GASPARD, 3880 m. = 12,730 ft.; PAVÉ, 3831 m. = 12,570 ft. Traverse. July 26, 1928. Messrs. J. L. Longland and L. R. Wager.

From La Grave we walked up the Col du Clot des Cavales route until we branched off up the steep side-valley towards the Col Claire. After a reconnaissance of the route on to the Pic Gaspard, we made a bivouac (sleeping sacks were carried) some way below the col at about 10,500 ft. [Incidentally, in describing the route up to the Pic Gaspard, Coolidge's *Central Alps of the Dauphiny* is some 90° compass out in saying that the usual route lies on one side or the other of the great Central Couloir of the *S.E.* Face. From our observations this should read 'N.E. FACE.']

We left our bivouac at 04.40, reached some provisions and the rope we had cached the night before, and arrived on the Pic Gaspard at 08.55—rather slow, as we were burdened with sleeping sacks and other bivouac equipment. A most incomparable morning: we could easily pick out the Z'mutt ridge on the Matterhorn, and the hills of the Massif Central were showing up clearly across the plain of France. Throughout the day, a singularly parching one, the view gradually closed in, the weather breaking the following evening, forestalling an attempt on Les Écrins.

On the summit of Pic Gaspard we roped up, and began to descend by the ridge joining our peak with the Pavé. We were soon forced off this ridge to the left on to the S.W. face of the Pic Gaspard. This is very steep, and to unravel a route took some time. We were unable to get back to the ridge, and descended by zigzagging across on one side and the other of the great couloirs that run down in the centre of the S.W. face. (Presumably this was the second descent of this face; the first ascent was made by M. E. Piaget, July 14, 1895.)

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We reached the couloir running down to the S. from the col between Pic Gaspard and Pavé (*Brèche Casimir-Gaspard*), some 200 ft. below the col. We cut across the couloir and reached the corresponding S.E. face of the Pavé. This was easy going on slabs that were pleasantly firm after the loose rock of the Pic Gaspard's S.W. face. Pavé summit reached at 15.20. We descended by the usual route from La Bérarde, on the S.W. face, to the Étançons Glacier. The bergschrund involved a 20-ft. downward jump. Thence by the Étançons valley to La Bérarde, reached at 21.00.

This expedition was an attempt to reverse the Pavé-Gaspard route of MM. Dalloz and Arnaud. Unfortunately we had with us no details of their route, or we might have persisted further on the very steep ridge, which must afford a sounder way than ours. Once we were forced on to the face, we could not traverse back again, and so made our climb by the S.W. face of the Pic Gaspard, which is steep, confusing and rather loose, and by the S.E. face of the Pavé which affords a very pleasant climb.

This appears to be the (?) first traverse in the Pic Gaspard-Pavé direction; it has been taken in the reverse direction, September 12, 1926, by MM. Pierre Dalloz and Albert Arnaud, 'A.J.' **39**, 131–2; the S.W. face of Pic Gaspard has also been *descended* previously, *Ibid.*, 132.

J. L. L.

[Times:

Left Bivouac	04.40
Reached cache at foot of N.E. Face	05.43
East Summit, Pic Gaspard	08.00–08.50
Main Summit	08.55
Couloir descending from *Brèche Casimir-Gaspard*	14.15
Pavé	15.20–15.48
Dry Glacier	(*ca*) 19.00
La Bérarde	21.00]

Mont Blanc Group.

La Pointe Isolée des Dames Anglaises, *ca.* 3570 m. = 11,712 ft. No height or name on *B.I.K.* July 10, 1929. Messrs. P. Wyn Harris and J. L. Longland.

From Gamba Hut we followed the route on to the Fresnay Glacier by the Col de l'Innominata, which was rendered rather difficult at that time of the year by a large corniche on the Fresnay side. A way was worked out across the Fresnay Glacier—not difficult at that date—and the gap between l'Isolée and the Punta Casati reached at 08.00.

On the first steep step above the col we found two pitons, one of them forming a safeguarding belay. Mr. Young's route ('A.J.' **27**, 34–43) was followed to the final shoulder, just S. of the summit; from this point the route is clearly marked on the sketch in

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Commandant Gaillard's *Guide to the Mont Blanc District* (vol. i.). We decided to try to avoid the slab on the 'Young' route, and Harris traversed a few yards to the left, going up diagonally on to the W. face of the final peak. From here a steep chock-stone chimney was climbed by the help of a shoulder, and a second chimney and slab led directly to the summit, without touching the S. ridge, up which the 'Young' route lies. The route we followed appeared to be the easier, and not much less direct.

On the way down the recrossing of the Col de l'Innominata was avoided by a direct descent of the Fresnay Glacier until below the Aiguille Joseph Croux, and a short traverse to the Gamba Hut.

J. L. L.

Times:

Left Gamba Hut	02.53
Col de l'Innominata	04.30–06.05 (halt)
Foot of couloir under Dames Anglaises	06.40
Gap between l'Isolée and Punta Casati	08.00–08.35
l'Isolée summit	10.30–10.50
Gap	11.50
Foot of couloir (below schrund)	14.15
Left Fresnay Glacier below Aig. J. Croux	16.10
Gamba Hut	(approx.) 16.50

AIGUILLES DES GRANDS CHARMOZ, 3442 m. = 11,293 ft.; GRÉPON, 3489 m. = 11,447 ft.; BLAITIÈRE, 3520 m. = 11,549 ft. Traverse. August 7, 1928. Messrs. J. L. Longland and G. L. Trevelyan.

Start delayed by doubtful weather, the party finally leaving the Montenvers at 02.10. Passage of the Nantillons Glacier had become a little complicated by this time in the season, especially the traverse from the icefall on to the Rognon at 06.00. Rucksacks and second ice-axe left at junction of Charmoz-Grépon couloir and Col des Nantillons routes (no rucksacks and only one ice-axe carried on the climb, for speed and light going), 07.00. We reached Point 3427 m. on the Charmoz, thence traversed all the peaks to the summit, 08.00. From there we saw two French parties approaching the Mummery crack. They very courteously let us pass. Halt for lunch on *Route à Bicyclettes*, 09.15–09.40. Grépon summit, 10.10. We assisted two French climbers, who had been on the Nantillons face and had worked round from the Brèche Balfour-Grépon, up the Knubel crack, and after an hour, ourselves roped down it at 11.10. Col des Nantillons, 12.05. Thence up the ridge, over the *Rocher de la Corde* to the Central Summit of the Blaitière, 14.00. Descended and cut across the neck of the 'Spencer' couloir ('A.J.' **40**, 410) in very tough and unpleasant ice, and reached the *Pointe de Chamonix* at 15.45. Descent by the rib on the true left of the couloir, reaching our rucksacks at 16.45. We returned to the Montenvers at 18.40.

J. L. L.

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AIGUILLE SANS NOM, 3989 m. = 13,088 ft.; AIGUILLE VERTE, 4127 m. = 13,541 ft., *B.I.K.* Traverse. August 14–15, 1929. MM. P. Chevalier, E. Stofer, and H. de Ségogne. Party followed more or less exactly route of de Longchamp-Charlet party of 1926.[1] The climb to the *Brèche sans Nom* presented no difficulty. To avoid the lower part of the couloir, party took the true left bank of the glacier tongue—as if for the 'Fontaine' route[2]—descending from said couloir. Taking a rock rib leading towards the couloir and then easy ledges, the couloir was rejoined in its last 200–300 m. and followed to the Brèche. Thence—no view—*descending* some 10 m., a small chimney, very exposed and highly glazed, followed by other crevices, led party to a series of short easy steps at the base of the main Aiguille. Henceforward climb is very difficult and leads upwards by very long and arduous chimneys. The last 100 ft. is easier. The traverse of the numerous stunted teeth situated right across the crest of the arête is accomplished by either slope. Snow in very bad condition, causing great delay. Bivouac a few feet under *Pointe Croux*. Summit of Aiguille Verte attained in 20 mins. on following morning. Descent by 'Moine' arête.

Splendid expedition, but very serious rock difficulties. Views on the whole inferior to those from Grands Montets ridge, except towards the Drus.

H. DE S.

AIGUILLE DU CHARDONNET, 3822 m. = 12,540 ft., *B.I.K.* By the N.E. face.[3] August 7, 1929. MM. P. Chevalier, E. Stofer, and H. de Ségogne. Route and direction may be described as steering straight towards the summit, turning the séracs. Fine expedition, nearly all over ice. Slopes steep in general, especially in zone of séracs; several very difficult steps. Considerable danger from falling ice. (No times.)

Pennines.

AIGUILLE DE L'IFALA, no height or name on maps. By the N. face. October 2, 1929. Monsieur E. R. Blanchet with Kaspar Mooser. This is the last and isolated peak of the Perrons de Vallorcine. From the snow slope—almost a glacier—at the base of this face, take a great diagonal ledge leading to the left; then by zigzags, first to the right, then to the left, climb up to the summit (1 hr.). Interesting and of moderate difficulty.

CORNE NORD DU CHAMOIS DE TENNEVERGE, 2560 m. (*Perret map*); traverse to Pic de Tenneverge, 2990 m. (*S. map*). September 24, 1929. Same party. Expedition entails the ascent of two important points, the first (2776 m., *Perret*) being a lofty pyramid of débris,

[1] *A.J.* **39**, 133–4. [2] *Vallot*, ii. pp. 111–113.

[3] Three different variations by the N.E. and N.W. faces were accomplished last summer. They may be dismissed briefly, as *all* are more or less dangerous and inadvisable.

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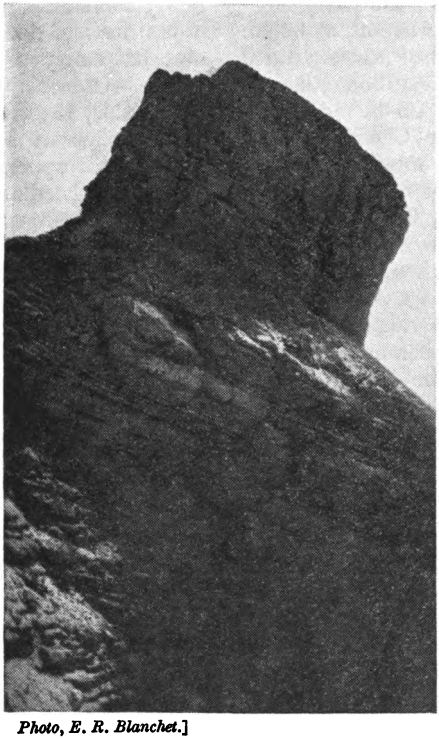
while the second is *le Grain de Sarrasin* (2846 m., *Perret*). This point is a great cube placed askew on the ridge; it is overhanging on several sides and was climbed by its S.E. corner. (This ridge traverse fills the last gap in the French portion of the Tenneverge



Photo, E. R. Blanchet.]

GRAIN DE SARRASIN FROM THE N.

district dominating Sixt. The geologist M. Robert Perret mapped it a few years ago.) From the *Grain de Sarrasin* the ridge abuts against the scree slope cut by several steps (climbed by the party), composing the W.S.W. face of the Pic de Tenneverge.

E. R. B.

DENT D'HÉRENS, 4180 m. = 13,715 ft. By the S.E. face.[4] August 31, 1929. Dr. M. M. Strumia with Louis Carrel. A pre-

[4] This appears to be a variation of the route taken August 20, 1908, by Cav. Guido Rey with J. B. Perruquet, Ange and Aimé Maquignaz, to the *Pointe Blanche*, 3920 m. (new I.G.M. Breuil map, 1 : 20,000), the last tooth on the great E.N.E. arête of the Dent d'Hérens. See *Alpes Valaisannes*, ii., 1929 edition, pp. 276–7.

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liminary exploration of approaches was done on August 2 and 3. The exploration was furthered on August 16, but an attempt on August 17 was frustrated by bad weather. On the same day a final survey of the S.E. wall was done, and the approach to the S. ridge, followed by Harold W. Topham on July 19, 1889, was explored.

On August 31 the party left the newly built hut at 'Lo Riondé,' 2804 m., above Breuil, at 02.45. By prairies and descending somewhat we reached at 03.20 the lower extremity of a rocky rib dividing the Cherillon Glacier from the 'Ghiacciaio del Leone' (without name on *S. map*). By turning this, the true left lateral moraine of the Cherillon Glacier was reached at a point about 2700 m. and it was followed for a while until it appears blocked by a huge mass of rock. From this point the Cherillon Glacier was easily reached, 03.50. The glacier was then crossed in a large circle, so as to avoid the séracs below. The crossing was done without losing height in about 10 mins. At 04.45 we were at the base of a steep ice cone, the apex of which continued into a couloir to the left of a ridge forming our approach. The rocks which we were to follow belong to a spur that detaches itself from the great S.E. face of the Dent d'Hérens between the couloir descending from the true right of the Pointe Blanche and the S. ridge of the Dent d'Hérens itself. The lowest portion of this spur is marked with quota 2984 m. on the map of 'Monte Cervino,' 1 : 20,000, of the I.G.M., 1922. The ice cone was ascended in less than 10 mins., after which an easy approach was made to the rocks on the right. These were in the beginning easy, but covered with much loose débris. The first difficulty encountered was a chimney (04.55) bounded by smooth *plaques*, and ending with an overhang. It was turned by a ledge on the left, and the couloir reached. This was followed for a short while (loose rocks), then, on the right side of the couloir, came various steep *plaques*, and another chimney. The couloir was again reached and followed to near its upper end, where it turns somewhat to the right and ends against overhanging rocks (06.00). A passage followed over very steep and smooth *plaques*, to the right of the couloir, about 100 ft. in height and extremely difficult. It took 40 mins. of exhausting work, but from above we could see that the passage probably can be avoided by the use of a ledge below it that leads from the couloir direct to the ridge of the spur, which can be followed. This first rocky spur ends with a very thin, horizontal ridge, running to the S.E. face proper, and continues there in a rather ill-defined fashion. We followed it straight up by good rocks until a little shelter was reached at 07.20. We left it at 07.45 ; a little above a patch of snow was found. Immediately above this a difficult chimney is encountered, above which the ridge vanishes in the great wall above, which at this point sweeps upward at a terrific angle. Turning to the right it is possible to reach another ill-defined rib formed of extremely steep rocks, with many holds, but not as secure as before. This

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is followed in the direction of a large, red gendarme of the S. ridge which is immediately above, until it ends against a perpendicular wall about 60 ft. in height ending in the said ridge. A first attempt to reach this on the left ended against a huge unstable overhanging rock; a ledge was then followed for a few feet to the right, after which a direct difficult climb brought us to the S. ridge, 09.40.

The point where the S. ridge was reached is on a level with the Col des Grandes Murailles (*ca.* 3850 m.) and near the summit of a very large gendarme of white rock. Immediately above this gendarme the rock changes colour very abruptly, becoming of a dark reddish brown. This band is very readily seen from the E. We left at 10.10. The top of the gendarme of white rock was turned on the right, E., and the ridge between the white and the red gendarmes was reached by a very difficult passage along a vertical fissure. The S. ridge was then followed up to where it joins the S.W. ridge coming from the Col des Grandes Murailles (3975 m.), 11.30. Here the difficulties ended and at 12.30 we were standing on the summit, having followed in the last portion the E. arête.

The descent was made by the W. arête, reaching Prarayé at 22.15, including a halt of 1½ hrs. on the summit and 1½ hrs. spent lying flat on the ice a little below the summit waiting for a severe electrical storm to pass. Halts of 1 hr. and 10 mins. were also made later.

Time of ascent: 9¾ hrs., including halts. Time of descent: 8¼ hrs., including halts. Total time of expedition: 20½ hrs.

The ascent is hard, and in the portion between 2984 m. and 3975 m., or about 1000 m., the difficulties are almost continuous. There are three very difficult passages, one of which, however, we feel can be avoided. The ascent is a great expedition, and with good conditions (only a small patch of snow was found in the whole wall) fairly safe, as no rocks fell during the ascent, whereas the nearby face and couloirs of the Pointe Blanche and the Grandes Murailles were raked by falling stones all day, even before sunrise.

M. M. S.

MATTERHORN, 4482 m. = 14,705 ft. By the S.E. arête, *Furggengrat*, taken in the *descent*. September 2, 1929. Monsieur E. R. Blanchet with Kaspar Mooser. Party, accompanied by Linus Pollinger, left the Schwarzsee Hôtel at 02.00 and arrived on the summit at 10.00. Thence Pollinger descended by the same (Hörnli) arête. M. Blanchet and Mooser commenced descent of *Furggengrat* at 10.35; ridge followed to a spot 20–30 m. above a probably discarded rope-ladder. Thence, turning to the left, N., by a ledge party scrambled on to the E. face. At the end of this ledge an iron piton was fixed. Now a 35-m. *rappel*, of which the last 20 m. are overhanging. Good platform attained, 12.00, whence the 80 m. spare rope placed *en rappel*, through a rope-ring fixed in a drilled-out cleft. Follows a second *rappel* of 25 m. over diagonally running chimneys in a S. direction. From a safe platform another piton

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fixed and a third *rappel*, of 35 m., of which 23 m. are completely in space, follows to a good resting-place. Thence, a descent of some metres over steps, first in a N. and then S. direction—a sort of easy chimney-like gully—brought the party to the Furggen 'shoulder,' 14.30.

The arête lower down appears to present no particular feature of interest; consequently, the party determined to traverse on to the 'Hörnli' ridge. This traverse proved easy. Instead of traversing, like Mummery,[5] in a diagonal and upward direction, they traversed diagonally *downwards*, attaining the 'Hörnli' ridge at a spot between the lower two great iron pitons (there are four) where a rope was fixed formerly, at 20 mins.' distance from the Solvay hut, 15.40. Pollinger, meanwhile, had been descending level with us as far as the 'Hörnli' shoulder so as to watch our progress, and, in case of need, afford help. The party arrived at the Belvedere at 18.35.

Mooser led in the descent of the *rappels*. Party did not rope, as this would have been of no use and dangerous, moreover, on *rappels* where the climber gyrates in space.[6] At least 70 m. of spare rope are obligatory. Only two stone-falls occurred. Great stalactites of ice remained in position, fortunately: a few drops of rain and some tiresome mists, otherwise fine and very warm weather.

'The "Piacenza" route ("A.J." **26**, 80–1, 150–8) is on the other [Italian] side of the arête. Our route solves the problem in a different, but practical manner.'

E. R. B.

STRAHLBETT (Kienhorn), 3755 m. = 12,317 ft. By the S. face. August 26, 1929. Same party. The right, ascending, bastion of the S. face forms a rib constituting the edge of the gully utilized in the ascent of the Täschhorn [by the S.W. arête]. Climb some 60 m. of the said gully, then pull out to the left, scrambling up a minor gully exposed to falling stones and so gain the rib. This latter leads upwards in steep steps to a series of teeth about similar in height. After the teeth the rib steepens, splaying out into a nearly vertical wall some 50 m. high. Above it is a kind of small terrace, whence the rib, becoming once more well marked, draws towards the W.—steep but easy—to the summit (3¼ hrs. from the base).

Interesting climb, but rocks very brittle at times. The rib is visible from Zermatt, forming the right sky-line and concealing the E. arête of the peak.

E. R. B.

Bernese Oberland.

SILBERHORN, 3705 m. = 12,156 ft. By the N.W. arête and face, taken in the *descent*. July 21, 1929. MM. Tom de Lépiney and

[5] And the Young-Ryan party, *A.J.* **23**, 270 *et seq.*

[6] Cf. *A.J.* **41**, 74–5.

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Photo, E. Gyger.

The N.W. Routes of the SILBERHORN.

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Walter Amstutz. From the summit of the Silberhorn the party descended the upper (snowy) part of the N.W. arête—no step-cutting—to the first rocks (¾ hr.). The route now appears obvious; they followed the crest itself, only a few deviations on the Wengern slope being necessary. One solitary place alone gave slight trouble (2) it is also turned on the Wengern side—it is only relatively hard, in fact the rocks can be descended straight down throughout in nailed boots. The arête can be described as easy throughout,[7] but the rocks are bad and very brittle and require continuous care.

The party left the arête in its lower third and traversed straight to the Rotbrettlücke: this gave no trouble at all, as the traverse is by ledges sheltered almost entirely from ice or stonefall. The route appears to be similar to that taken in the ascent by the pioneers of this route, the Hornby and Philpott party ('A.J.' **2**, 210, and especially Captain Farrar's articles: **30**, 244–5, illustrated, **31**, 216–7, illustrated, and **38**, 315–321, illustrated).

The expedition is highly interesting, the worst part being the descent from the Schwarzmönch to Stechelberg or the Wengernalp. This part of the route must be carefully studied beforehand, as otherwise it is extraordinarily difficult to pick up the way on the descent.

Times, inclusive of halts (1½ hrs.). Letters and figures refer to marked illustrations:

Jungfraujoch	dep.	04.05
Rottalsattel		06.10
Jungfrau	arr.	07.10
	dep.	07.35
Silberlücke		09.25
Silberhorn		10.15
'First rocks' C		11.15
Point 2		13.05
Point B		13.20
Point D	arr.	13.50
	dep.	14.35
Schwarzmönch	arr.	14.50

[The Hornby and Philpott party went *up* the difficult W. slope of the N.W. arête of the Silberhorn—great steps of rock and snow—under the hanging glacier. They were forced occasionally on to the icy N.E. slope, reaching the summit by the N., snowy, arête. The 1929 party *descended* by the comparatively easier N.W. arête with slight deviations to one or other slope. In the lower third they traversed to the Rothbrettsattel, or *Lücke*.]

The two routes are, so far as general direction is concerned, identical.

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[7] The great skill of the party should not be lost sight of.—*Editor*.

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ROTHLAUIHORN, 3155 m. = 10,352 ft., S. arête; and SCHILTHORN, 3126 m. = 10,256 ft., N. arête.

These two peaks, on the ridge dividing the Baltschiederthal from the Gredetschthal, are difficult to reach; no previous record of a traverse of the ridge connecting them seems to exist.

On August 9, 1929, Messrs. R. L. G. Irving, G. S. P. Heywood, and F. G. Irving left the Baltschieder hut at 7.30, descended to the Baltschieder Glacier, crossed its eastern moraine and traversed into the grassy Galkikumme hollow. From there they went up to the [?] *Galkenkrinne*, a hunter's pass N. of the Rothlauihorn, and climbed in a short hour the pleasant rocky ridge leading to that peak, which was reached at 13.30. The S. ridge is nearly all good rock with no really difficult places on the *simplest* route. It took 1 hr. to reach the lowest point between the two peaks, about 500 ft. below the Rothlauihorn. The N. ridge of the Schilthorn is similar, but there are a couple of towers, and, at a steep corner overlooking the Gredetschthal, the rock is unpleasantly loose. It took another hour.

It would have been easy to descend W. to the Baltschiederthal, but the extra 2000 ft. of re-ascent incurred was more than the party could face. Consequently they retraced their steps to the Rothlauihorn, taking 1 hr. down and 1 hr. up as before. It was nearly dark when the moraine of the glacier was crossed at about 2200 m. and the hut was reached at 21.30. The weather was warm, wet and cloudy all day, and the time taken in the morning to reach the Galkenkrinne was prolonged by halts and a lazy pace.

ALPINE NOTES.

THE ALPINE CLUB OBITUARY:	Date of Election
Slingsby, W. Cecil	1880
Stable, D. W.	1890
Reade, H. V.	1897
Norton, R. F.	1898

ALPINE JOURNAL.—Index to Vols. 16 to 38. This Index is now ready. Copies may be ordered from the Assistant Secretary, Alpine Club, 23, Savile Row, London, W. 1. Price 10s. 0d., post free.

Index to Vols. 1 to 15, including P.P.G. Copies may still be obtained, unbound, price 2s. 6d., post free.

'THE CLOSING OF THE ITALIAN ALPS.'—Despite hopes and assertions to the contrary the situation remains unchanged. In fact, if one is to believe British and foreign press reports, conditions are, if anything, worse. Nevertheless, several instances of courtesy

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Photo, W. H. Amstutz.

N.W. Arête of SILBERHORN
from SCHWARZ MÖNCH.

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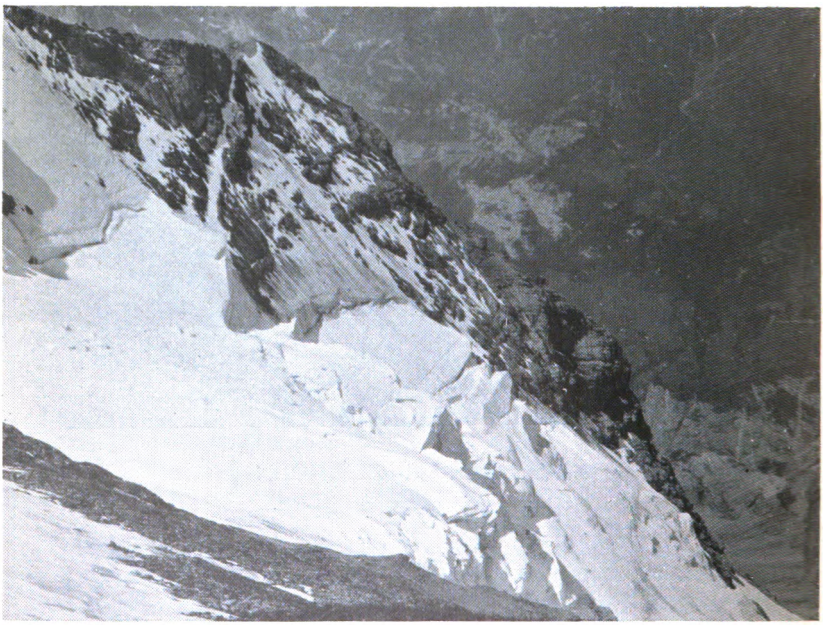
Photo, W. H. Amstutz.

Upper Part of ROTBRETTGRAT
from N.W. Arête of SILBERHORN.



Photo, W. H. Amstutz.

ROTBRETTGRAT seen from N.W. Ridge of SILBERHORN.

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displayed by frontier guards have been communicated to us by members of the Alpine Club. We can only trust that it may dawn eventually on the Italian Authorities that malefactors seeking to enter their country are not accustomed to make use of mountains or glacier passes. The said miscreants invade Italy by *trains de luxe* or expensive cars, and for such there are no hindrances or restrictions.

Height of Mount Everest.—A note on this subject appears in the General Report of the Survey of India, 1927–28. The value of 29,002 ft. was computed in 1852 from observations taken in 1849–50. The last figure is retained, not on account of its probable accuracy, but in order to avoid the suggestion of an estimate in round figures. In 1907 Sir Sidney Burrard calculated the height to be 29,141 ft. Dr. de Graaf Hunter, applying improved refraction corrections to results from different observation stations, gets a height of 29,149 ft., which has a probable error of less than 5 ft. and a possible error of less than 15 ft. This, however, is more than the true geoidal height. When the correction is applied, Mt. Everest has a probable height of 29,075 ft., with a possible correction of 25 ft. either way. It is impossible at present to give the height of Mt. Everest with greater accuracy.—From *Nature.*

During the 1921 and 1922 expeditions, Major (now Lt.-Colonel) H. T. Morshead, R.E., from careful observations worked out the height of Mt. Everest as 29,146 ft. = 8888 m. This height is practically in exact concordance with Sir Sidney Burrard's and Dr. de Graaf Hunter's calculations.

Swedish Mountaineering Clubs.—There are now two Swedish mountaineering clubs, each of which has, in 1929, published its first journal.

The Lappländska Fjällkarlarnas Klubb ('The Lapland Alpine Club' is their own official translation of the name) is a very exclusive body, the number of ordinary members being limited to twenty and that of honorary members to three. The qualification is exacting and demands a high standard of ability and experience in climbing and in winter expeditions on ski. The club was founded in 1920, and the little Årskrift *Ultima Thule* published in 1929 is to be followed by others, though at irregular intervals. A copy, kindly given to the writer by Captain H. N. Pallin, the Secretary of the Club, is now in the Alpine Club Library. Among other items it contains a Swedish translation of the chapter in M. Charles Rabot's 'Au Cap Nord' in which the author describes the first ascent of Kebnekaise made by him in 1883.

It is noteworthy that a summary of the contents of *Ultima Thule* is given in English and the titles of the papers appear in English as well as in Swedish.

The Svenska Fjällklubb, founded in 1927, is a less exclusive body

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and has about 200 members. The Secretary, Herr Erik Drougge, who has been good enough to write for me an interesting account of the objects and activities of the Club, says that it is intended to 'unite all those who in some form or other practise mountain sport and who possess sufficient experience to be fully competent for what they undertake. Visits to the mountains for three or four seasons are to be regarded as a minimum requirement.'

The well-illustrated Årsbok 'Till Fjälls,' issued in 1929, is also in the Alpine Club Library.

We wish these northern mountaineering clubs a long and prosperous life.

The Svenska Turistförening is primarily a tourist and not a mountaineering club. But mountaineers in Sweden owe a great debt to the Club for what has been done by it for them, and I am glad to be able to acknowledge here the help received from it by me at various times.

H. L. JOSELAND.

The Dent du Midi LANDSLIDES.—The excitement caused in 1926 and 1927 has quite died away. We went, however, to visit the scene of the great fall on the Cime de l'Est so as to ascertain its present condition, since the fall of part of the ridge was the primary cause of the 1926 disaster. With the excellent guide Philippe Allamand, we left St. Maurice on September 23 and climbed *via* the Mex plateau to Foillet, where the St. Barthélemy torrent had dug out an immense gorge at the time of the landslides, forming a regular ravine. It is, however, possible with care to cross this great trench and then reach the Fontaine-Froide path. Crossing the Col de Jorat and thence attaining the Salaufe plateau, we took the path leading to the Plan-Névé Glacier. Thence, leaving the path and turning to the right, we walked up the steep grass and débris slopes leading to the gap, 2639 m. The view hence into the gorges of St. Barthélemy is extraordinarily savage. Formerly it was quite possible to traverse diagonally, by a ledge, the slopes leading from the Cime de l'Est towards the Dent Mote; now, however, a great part of this route appears very ticklish since the rock-slides have passed right over the ledge. It is a mass of shattered and slippery blocks showing traces of lightning-action. Without much risk, however, we contrived to follow the ledge towards its centre, whence the tongue of the Plan-Névé Glacier is visible. There with an effort we succeeded in examining the very alarming breaks, and were able to make sure that since the great falls of 1926 no other gendarme—on the ridge above the Dent Mote—has collapsed and the breaks are all old. The slopes of the arête are smooth, a fact pointing to a measure of security, although stones will certainly fall at times. The Borloz couloir, a black cleft leading towards the Cime de l'Est, appears to be in good condition, showing no signs of disintegration.

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Finally, the arête of the Cime de l'Est and all the upper part of the St. Barthélemy gorges appear stable. For the *present*, unless exceptionally heavy rains occur, there appears to be little danger. The great works planned, construction of groynes, etc., are still in their infancy, but a road is being constructed towards the Mex plateau for the transport of the necessary *matériel*.

JULIEN GALLET.

Compulsory insurance in the VALAIS.—Since the complete destruction by fire of the villages of Lourtier and Torgon, steps are being taken to compel the inhabitants of Valais to insure themselves and their houses. It is also suggested that the fire brigades and engines should be brought up to date. The engine of Lourtier dated from 1824.[1] From the *Gazette de Lausanne*.

Height of FUJI-YAMA.—A Tokyo report states that the 'Holy Mountain' has been remeasured as only the sixth in height of the Japanese Mountains, instead of the highest. Its new altitude is given as 3767 m., while Nii-taka-yama attains 4013 m. From *Die Alpen*.

A PERIL OF THE ALPS.—Two elderly members of the Alpine Club —one of the highest distinction—together with a youthful guide, are spending the night in a secluded Club hut. To them there enters at 9.30 P.M. a remarkable Phenomenon. Brandishing an enormous stable-lantern in their faces, it reveals the countenance of a youth of some 18 years. In incomprehensible patois it demands where it may rest. Consigned to perpetual if restless slumbers, it retires. The party starts about dawn for its intended peak. Soon hurrying and stumbling footsteps are heard as the Phenomenon springs upwards and past our party. The foot of the rocks is reached, a route is chosen, and the party proceeds. Suddenly and far below reappears that Phenomenon. Like a marmot it had lain *perdu* among the moraines until the true route had thus, fortuitously, been disclosed. It hurried up, reckless of stones and an imminent fall, and established itself on the heels of the party. It did more; it offered to assist the most experienced member. Oaths and curses unrepressed had no effect. It halted when the party did, advanced and approached the top as they did, until, on the easy summit ridge, hurrying to the front, leading unsafely, triumphant and alone, it stormed the last 10 feet! Roughly commanded, it descended close on the party; showering stones, its clumsiness like boots and axe excessive: revealing every intention of impinging heavily as a falling sérac on its innocent victims, it reached the base in safety. Since the scorning of its proffered help, it had uttered no word. Now on the moraine, it turned to the youthful guide—bearer of a

[1] In the great fire of Salonika, August 1917, the *only* local engine bore the inscription 'Sun Fire Office, 1710'!

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classical and honoured name—and offered to pay the price of his night's lodging in the hut. Laughter pursued that Alpine Nuisance as it bounded over boulders in headlong descent to civilization. The party saw it no more, save as a distant, melancholy, and *fully clothed* figure bathing in a mountain tarn, but it met some mountaineers proceeding to the hut, to whom it explained and to all whom it may concern, that It, a *führerloser Alleingänger*, had conquered with ease that terrible peak.

Did it perish, crushed under a six-wheeled yellow diligence, an end too good for it? The driver's skill precludes the probability. Or does it still lie lurking behind rocks or concealed under palliasses, awaiting fate or other luckless parties? Excluding Italy, the Alps are free to all and Switzerland owns much of them; this Peril and Nuisance comes—or came—from no alien race. To Herisau redounds the honour. As for its name, is it not written for all the Alpine world to see in the book of the Linard Club hut of the S.A.C., under the date of July 21–22, 1929?

Dauphiné Club Huts.—A new hut has been opened, Refuge du Pas d'Olan, in Valgaudemar, for the Pic d'Olan. It is situated at a height of 2680 m. in a gap in the ridge forming the S. buttress of the Pic d'Olan. Providing that the building is sufficiently substantial to remain standing for more than one summer, it will fill a long-felt want and will materially benefit mountaineers visiting this most attractive valley.—From *La Vie Alpine*.

Death of Major W. H. Bulpett.—We regret deeply to report the death of this well-known pioneer of winter mountaineering and sports at the age of 74. He was the inventor and builder of the famous 'Cresta' toboggan run, St. Moritz, and in his younger days an admirable and untiring mountaineer. He will be much missed by numerous friends.

Lady Mountaineers.—Miss Miriam O'Brien and Madame Damesme traversed the Aiguille de Grépon by the 'Mummery' route, last summer, without guides.[2] Miss O'Brien and Miss Marples accomplished, guideless, the ascent of the Aiguille du Peigne. On August 30 Miss O'Brien, with the guides Adolf Rubi and Hermann Steuri, repeated the ascent of the Wetterhorn by the S.W. arête ('A.J.' **40**, 380–2); the expedition is described as one of the most difficult in the Bernese Oberland. With the same guides Miss O'Brien climbed the Schreckhorn by the S.W. arête in 6 hrs., crossed over to the Lauteraarhorn in 3¾ hrs., descending to the Strahlegg Pass by an unusual and

[2] Miss O'Brien had led up the Grépon previously, although professionals were present (*A.J.* **40**, 403). We will *not* quote Mummery's worn-out jibe.

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difficult route in 5 hrs.; a total of just over 14 hrs. Miss O'Brien is also reported as having, on September 9, made the ascent of the Jungfrau from the Jungfraujoch by the (?) N.E. arête, descended to the Silberlücke-Silberhorn, whence the party attained the *Trümleten Thal* (!) by a descent between the Lamm and Giessen ravines.

FOOLISH 'MOUNTAINEERING.'—The *Allgemeine Bergsteiger Zeitung* reports that the 'Pallavicinirinne' of the Gross Glockner was climbed by two young fellows in 1 hr. 40 mins., who started on the expedition at 4 P.M. We agree thoroughly with the Editor's caustic remarks and warning. The *Morning Post* in an article on 'Lady Mountaineers'—save the mark!—reports the first night traverse, and a cloudy one to boot, of the three principal Vajolet Towers (Delago, Stabeler, and Winklerthürme) by some ladies whose names, as given, are reminiscent of cinema 'stars.' This insane performance has not even the disgrace of being the first, as it was accomplished many years ago—true, it was a starry night—by the 'guide' G. P. Piaz with an American lady.[3] Next we shall hear of the 'first night traverse, without guides, of the said Towers in a snow-storm,' and we fail to understand why Alpine accidents are so rare.

An accident on the MATTERHORN and its sequel.—Mountaineers will recollect the lamentable disaster in 1928, when an inexperienced schoolboy, while proceeding unroped, slipped and was killed. The tutors responsible for taking the boy up the mountain were arrested and brought before the Berlin-Schöneberg court, where the senior, an individual named Behm, was condemned to 6 months' imprisonment, on May 1.—From D. & Œ. A. V. *Mitteilungen.*

The HÖRNLIGRAT ('A.J.' **39**, 324–7, illustrated) is stated, we regret to report, to have been made accessible throughout by the placing of a 65 m. leather (*sic*) rope over the great cleft crossed by the Japanese party in 1927.—From *Echo von Grindelwald.*

A VALUABLE BOOK.—An exceedingly rare copy of the late Mr. Samuel Aitken's work 'Among the Alps,' a narrative of personal experiences, has been presented to the Alpine Club by Mrs. Samuel Aitken.—The copy is inscribed as follows:

'Presented by the family of the late Joseph Bennett to Mrs. Samuel Aitken, who now gives it with much pleasure to the Library of the Alpine Club, London, in memory of her husband (Samuel Aitken was a member of the A.C. from 1891 down to his death at Mullion, Cornwall, February 19, 1929,[4] at the age of 85).

'Gloucester, September 16, 1929.'

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[3] See Cav. Guido Rey's *Alpinismo Acrobatico*, p. 170.

[4] Mr. Aitken died on the same day as Captain Farrar.

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In the author's preface it is stated that 'the book is not for sale . . . and is a plain unvarnished record of my own ascents and adventures. . . . My old and dear friend, Mr. Joseph Bennett,[5] has in the kindest way possible, looked through my MS. and made many invaluable suggestions.

'SAMUEL AITKEN.

'Christmas 1900.'

The book is superbly illustrated by Cav. Vittorio Sella.
The Alpine Club appreciates highly Mrs. Aitken's valuable gift.

ROYAL GEOGRAPHICAL SOCIETY AWARDS.—His Majesty the King has approved the award of the *Back Grant* to Mr. P. C. Visser for his explorations of the Hunza-Karakoram glaciers.

Monument to the late Lieut.-Colonel F. REGAUD.—In the unavoidable absence of the President A.C., M. le Baron Gabet, Président du C.A.F., Hon. Member A.C., represented the Alpine Club at the inauguration of the said monument at Bonneval-sur-Arc on August 25, 1929.

We regret to have to announce the deaths of several distinguished Foreign Mountaineers:

Herr H. PFANNL, President of the Austrian Alpine Club, died on May 1 last. A very brilliant mountaineer, his name will be remembered always for his guideless first ascent of the Dent du Géant by the N. face, a feat which, at the time, caused a great sensation in Alpine circles. Other famous ascents of his were the first guideless traverse of Mont Blanc *via* the Pétéret ridge, the first ascent of the startling N. face of the Hochtor, as also of the N. face of the Reichenstein in the Gesäuse. He was joint author of the Austrian *Mont Blanc Führer*.

Dr. KARL SCHULZ (1844–1929), Member of A.C. 1882–91, was also very well known for his extensive climbs in all parts of the Alps. At one time he was a kind of stormy petrel in Alpine history, having become involved in disputes with Dr. Güssfeldt (whose grossly exaggerated account of the terrors of the 'Bernina Scharte' he exposed to the world), and with the famous critic and mountaineer, Dr. Lammer, 'who attacked him with extraordinary bitterness in a pamphlet entitled *Ein Alpiner Ritter von der traurigen Gestalt*.'[6] In all these controversies the Alpine Club, needless to say, took no part, and Schulz's relations with us were always of the most cordial. He was the companion of Ludwig Purtscheller and Emil Zsigmondy, and, together with Otto Zsigmondy, was present on

[5] Whose copy is the one now presented to the Club.
[6] This remarkable effort is in the A.C. Library.

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the occasion of Emil's lamentable accident on La Meije in 1885. The list of his most remarkable new exploits will be found in 'Mumm,' iii. pp. 254–60; they comprise, in the Western Alps, the Dent Blanche by the W. arête (with Mrs. E. P. Jackson), and the Bietschhorn from the S. He was the author of many Alpine articles, signed and anonymous, contributing also largely to the *Erschliessung der Ostalpen.*

Monsieur AUGUSTE REYNIER'S (1849–1929) death is also reported. His name is associated chiefly with Dauphiné exploration. His best known new ascents comprise the S.E. face of Les Écrins and the traverse of the Coup de Sabre, Col du Glacier Noir, and Brèche Joseph Turc.

Lieut.-General THEODOR VON WUNDT, whose death at Stuttgart was announced recently, will be remembered chiefly for his climbs with his wife, an Englishwoman; these were responsible for many works from his pen on the Alps, written and illustrated in a popular form ensuring a very large sale. The most successful of these were 'Das Matterhorn' and 'Engadin, Ortler, Dolomiten.' The illustrations, although in some cases now out of date, were, at the time published, among the best we have seen. General von Wundt recently wrote some Alpine novels which were, however, less successful. We have no record of his career in the German army, in which he attained high rank.

Dr. HANS MEYER, the conqueror of Kilimanjaro in 1889, has also died recently.

Professor LUIGI BRASCA died last July. He was the great authority on the Valle San Giacomo (Splügen) peaks and editor of several of the C.A.I. *Guides.* A very charming man, his loss will be felt deeply by our friends of the Italian Alpine Club.

The deaths of MM. AUGUSTE MOTTET and V. DE BEAUCLAIR, in the accidents on the Doldenhorn and Matterhorn respectively, are a sad loss to Swiss mountaineers in general. The Swiss 'Academicals,' perhaps the foremost group of latter-day mountaineers, have indeed suffered severely in the last ten years.

The Alpine Club desires to express its sympathy to the relatives and friends of all the above deceased.

CLIMBERS' GUIDES.—Commandant Emile Gaillard has just published volume II, part I, of his *Alpes du Dauphiné,*[7] comprising La Meije and Les Écrins. The Guide is well up to the usual high standard of the author and has even more diagrams, sketches, and maps than usual. Our only complaint is the continued and almost

[7] M. Dardel, Chambéry, price 30 *fcs.*

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total absence of the names and dates of the first parties to accomplish the various expeditions. If these were included hardly more than a couple of pages would be added to the book and the interest would be increased greatly. We are inclined to concur with the almost total absence of bibliography; nevertheless, the reference to the *principal* account of the route under discussion should be given—if only to avoid the possible charge of plagiarism.[8] The infinitely small increased bulk could be reduced again by the abolition of accounts of countless futile 'variations.'

BERCHTESGADEN and KAISERGEBIRGE Guides.—Herr W. von Freriks writes: 'In his last letter to me, dated December 20, 1928, Captain Farrar asked me about the performances of the young Berchtesgaden guide, Joseph Kurz, adding that as far as he knew there were no competent guides in the Kaisergebirge in Tyrol. I think that I am not mistaken in assuming that the answers to Captain Farrar's questions would be more or less interesting to some members of the Alpine Club. I therefore avail myself of the opportunity of transmitting to you some notes on Joseph Kurz and the Kaisergebirge guides:

'JOSEPH KURZ, Berchtesgaden (Bavaria), born 1904.

'(1) First ascents: Klein Watzmann, direct up W. face, extremely difficult. Gross Watzmann, direct up E. face, extremely difficult. Hoher Göll, W. face, extremely difficult.

'(2) Many exceedingly difficult rock climbs in the Berchtesgaden and Kaiser Alps, *e.g.* Fleischbank, E. face; also in the Dolomites, *e.g.* Delagothurm, S.W. edge, up and down.

'(3) Several (snow) peaks in the Glockner group.

'(4) Monte Rosa, Matterhorn (as far only as "Swiss" shoulder owing to bad weather).

'He is a first-rate rock climber. Little experience on snow. Full of dash and would probably be an excellent companion to an experienced mountaineer. He is willing to do the Fleischbank-Ostwand for 80 marks. For a Swiss engagement he asks 20 marks a day. I can give further references from my address: Friesenhof, Berchtesgaden, Bavaria.

'In the Kaisergebirge are:

'(*a*) FRANZ PLONER (Kienbichl, Kufstein, Tyrol).

'(*b*) ERNST EGGER (Gaudeamus Hütte, Elman, Tyrol).

'Both of them are very experienced cragsmen. They have done the most difficult climbs in the Kaisergebirge, *e.g.* Totenkirchl by W. face, Predigstuhl, N. peak, by W. face; Fleischbank by E. face; Kleine Halt by N.W. face, "Dülferweg," etc.

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[8] As has happened, ridiculously enough, to a *Climbers' Guide* published by a foreign Club.

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'I have noticed that both Egger and Ploner have been mentioned rather unfavourably in "A.J." **37.**[9] They have improved.'

We are much indebted to Herr von Freriks for his valuable note.

E. L. S.

NOMENCLATURE in the French Alps.—The further 'personal' naming of yet more points and boulders in the Chamonix Aiguilles is the subject of a biting but justifiable protest from M. Emile Fontaine. We may add that the names given by M. Fontaine himself were, almost without exception, quite admirable.

An Adventure near OBERAMMERGAU.—A British tourist while making the ascent of the Kofel, 1343 m., slipped and fell, remaining, however, suspended through his coat pocket catching on a rock. Being ignorant of German, he could only shout 'Juchhe' (*sic*); other tourists in the vicinity responded gaily with cries of 'Juhu.' As, however, the victim's yells continued unabated, a search was made and the unfortunate Briton was discovered and rescued from his uncomfortable position. His relief was great, so it is reported. From *Allgemeine Bergsteiger Zeitung.*

JOHANN GRILL II, der 'Köderbacher' of Ramsau.—Members of the Alpine Club will recollect Captain Farrar's eloquent tribute to his old guide and friend Johann Grill I in 'A.J.' **31,** 262–9. Herr von Freriks, the well-known mountaineer, has published a charming little pamphlet, now in the A.C. Library, describing the climbs achieved by those great guides, the two Johann Grill, father and son. From private communications from Herren von Freriks and Paul Montandon, it appears that Grill II (the son) has fallen on evil times; it is unhappily the case that '. . . he has with his wife, three daughters and a son 14 years of age, the family farm in the Ramsau and a *Gastwirthschaft* which hardly suffice to help them through. Grill suffers from an incurable stomachic complaint which cannot be operated on, while his wife is a victim to arthritis in the hands, so that she is unable to work. There is a 4000 marks mortgage on the farm at 10 per cent. interest, and, in addition, the family owes 3000 marks. Freriks is doing his best to collect 2000 marks in order to pay off at least half of that onerous mortgage; so far he has collected about 1100.

'Now do you know any gentlemen who have employed Grill[10] and do you think anything could be done in England for the poor

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[9] *Loc. cit.*, 279–300; Ploner was praised, but the criticism of Egger appears unduly severe.

[10] Captain Farrar, 1892, 1897, 1898, 1901; Mrs. Blackburn, 1893; W. E. Kendrick, 1892, 1893; William and Edith Hoyle and L. E. Massey, 1895; three members of the Rendall family, 1890.—*P. M.*

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man in order, at least, to better his financial position and make the last period of his life less bitter? If only Farrar were alive, he would surely have taken the thing in hand, as he was a great admirer of that thoroughly respectable family. . . . It should not be too difficult to collect the 2000 marks if everybody were to help a little.

'PAUL MONTANDON.'

This appears to be a case thoroughly deserving of charity. The two Grill, father and son, were unquestionably by far the best guides of *German* nationality who have yet appeared; their record and integrity speak for themselves. Captain Farrar has described their principal characteristic as their *Unerschrockenheit*. None of us, serving opposite them, in the period 1914–1918, will deny that virtue to the gallant Bavarian Divisions, their countrymen. It would be a graceful and sporting act if some sum, however small, could be sent from members of the Alpine Club to Johann Grill II in his need. The Editor 'A.J.' or the Honorary Secretary will be pleased to transmit any donations to the 'Köderbacher' family, in particular for the education of the boy. Herr von Freriks, writing on October 9, states that Grill is sinking gradually, a fact making the lot of the family a still harder one.

S.A.C. HUTS.—*Die Alpen* gives the number of visitors as 68,325 in 1928 as against 51,815 in 1927. In the 105 Club huts, the percentage of S.A.C. members to the total works out as 33·6. The Boval hut with 3282 visitors is once more a winner by over 1500, while the Baltschiederklause and Oberaletsch, with 55 and 88 respectively, oust the wooden spoon from the Sciora hut.

ASCENT OF UMANAK, N. Greenland.—Herren Ernst Sorge and F. Georgi, members of the Wegener Greenland Expedition, write: 'It may be of interest to readers of the ALPINE JOURNAL that on July 14 [1929], we have succeeded in climbing the famous rock of Umanak [or Umenak], attempted by Whymper[11] about half a century ago, but never reached till now. The route led up at first over rock and grass, then through a steep snow rim [*sic*] of the N.E. side. From a gap at its upper end, about 870 m., we reached the highest (N.) summit, 1230 m., over a very steep and difficult rock wall of which 200 m. or more have a mean inclination of about 80°. From the highest point, the S. summit, visible from the colony (of Umanak) was reached without serious difficulty. Times:

[11] Although Mr. Whymper writes in 1873 that 'the peak appears to be inaccessible,' he does not state that he ever attempted to climb it. See *A.J.* **6**, 217; illustration facing 161.

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from the colony to the N. summit, 12 hrs.; from N. to S. peak, ¾ hr.; from S. peak to sea level, 7 hrs.'

We thank these gentlemen for their note and congratulate them on their success, a fresh proof of the extraordinary activity now prevailing in German and Austrian mountaineering circles.

E. L. S.

MT. AMERY.—Mr. L. C. Amery has done the right thing; he is reported to have climbed this mountain, *ca.* 10,940 ft., situated in Alberta and named after himself by the Geographic Board. The ascent is stated to have been difficult and to have taken 13 hours. It remains for the ex-Prime Minister to climb Mt. Baldwin.

Later: Mr. Amery writes: '. . . I climbed Mt. Amery (first ascent) on August 20, with Bryan Meredith and Eduard Feuz, and the following climbs with Feuz only: Mt. Castleguard, August 24; Mt. Bryce, August 27; Mt. Saskatchewan, second ascent on August 30; unnamed peak *ca.* 10,200 ft., W. of Lake Maligne, first ascent on September 6; Mt. Leah, E. of Lake Maligne, on September 10. . . . Bryce has only been climbed once by Sir J. Outram with Christian Kaufmann by the terrifically long northern ridge. I explored round to the S. of the mountain and found a shorter route, but turned back less than 200 ft. from the top, as time did not allow the very slow job of cutting steps through a lot of loose snow. A day or two later we might have done it in 20 minutes. Anyhow this was the most interesting bit of climbing and route finding that we did. Saskatchewan is quite easy and Castleguard and Leah are really nothing more than snow and scree walks respectively.

'The new peak W. of Maligne is a fine one to look at and offers some quite amusing rock climbing. . . .'

THE SHAKSGAM VALLEY.—The Italian expedition led by H.R.H. the Duke of Spoleto has carried out a notable piece of exploration in the Karakoram Himalaya. They have made a scientific survey of the Shaksgam valley and filled up the small gap left between my exploration in 1889 and Mason's exploration of the sources of the river in 1926. They crossed the Mustagh Pass into the Shaksgam valley and ascended it as far as the glacier which stopped Mason. They then returned by the Mustagh Pass, the height of which they determined to be 19,030 ft.—my own rough estimate of its height being 19,000 ft. They believe they have discovered a feasible way of reaching the Shaksgam valley from the head of the Baltoro Glacier. And we may hope that next year they will explore the route and complete the round of K_2.

FRANCIS YOUNGHUSBAND.

NEW or UNUSUAL ROUTES in 1929. Several important expeditions have been accomplished of which we give a short summary.

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Dauphiné.

AILEFROIDE (Central Summit).—By N. arête, attained from N.W., Coste Rouge Glacier (variation of Mayer-Dibona route). July 1929, MM. J. and G. Vernet.

PIC D'OLAN.—By S.E. arête, first *ascent* (descent by Littledale in 1897). July 1929, MM. (?) Pruset and Marcel Legrand, starting from Col des Sellettes.

Mont Blanc Group.

DÔME DU GOÛTER.—By the W. face through the séracs of the Glacier de Bionnassay français. July 20, 1929, MM. Migot, Azéma and Rey.

PETITES JORASSES.—By the N.W. face from the Glacier de Leschaux. From Petites Jorassès traverse to AIGUILLE DE LESCHAUX, thence descent by N.W. face (Ward's 1927 route). July 16–17, 1929, MM. Migot and O. C. Schaub with Armand Charlet.[12]

AIGUILLE VERTE.—By the N. face from the Argentière Glacier. (?Variation of Middlemore–Maund–Cordier, 1876, and de Lépiney routes.) September 2, 1929, Mr. Bradford Washburn with Georges Charlet, Alfred Couttet and André Dévouassoud. Times: 6 hrs. 20 mins. from Refuge d'Argentière to summit (!) Excessively dangerous—as might be expected in September—from falling stones.

BRÈCHE DE L'AMÔNE—MONT DOLENT—AIGUILLE DU TRIOLET, passing over Pointes *dc Pré de Bar*, *Langlois*, *Le Bec*, *du Domino*, *Guibert*—several teeth previously unscaled. August 27–28, 1929, M. Jonquières with Marcel Bozon and Alfred Ravanel. We understand that a disaster was just avoided.

MONT BLANC. (?) Several ascents by the Pétéret and Brouillard ridges.

Pennines.

DENT D'HÉRENS—MATTERHORN.—We understand that Mr. T. Y. Kagami, with Gottfried Perren, followed the watershed from summit to summit (!).

H. DE S.

During some ten days spent at the MONTENVERS in July, Johann Perren took Miss Mabel Carey and myself up the PETITS CHARMOZ, a day of 11 hours. The only hitch in a sunny traverse was the

[12] Who appears to have recovered completely, we are glad to say.—*Editor.*

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irresponsible ascending and descending of the couloir which it shares with the Aiguille de l'M, by more than thirty young people, at all hours. Some were still ascending the Nantillons Glacier, for the climb, at 2.30 P.M. During these few days the bodies of three separate victims of this terrible neglect of elementary rules—growing everywhere more apparent—were brought down to the hotel. Later: Hans Brantschen and Johann Perren took me over the DENT DU REQUIN. The sultry trudge to the Requin Hut was laborious. We left about 1 A.M. The other parties all passed us on the soft snows of the glacier-fall. We overtook them again on the pleasant rock-traverses, below the 'Colonnes,' which the guides of recent years have 'thrown in' to make more of an affair of the traverse. The descent was complicated by a hinge of the new duralumin 'peg' going out of action, and the whole 'peg' out of use, till it was hammered with a rock. One-legged glissading down the fall, arm-locked with Hans, carried us proudly past a party returning from the Plan. After a halt at the Hut, the Mer de Glace showed itself once again in its most slithery, cross-hummocked and thigh-splitting condition. Some 17½ hours in all. J. L. Longland and George L. Trevelyan having come over from more important climbing expressly to push me up an Aiguille, with Hans Brantschen we left for the Plan des Aiguilles, in uncertain weather. A night of black storm brought back much of an old-time joy, in the moral winding-up process necessary for an unchancey start. The two or three hours in the dark, going all-out over moraine and glacier-seepings, were the severest effort since the war. The day relented gorgeously. Two ropes solved the Mummery Crack, dividing the effort economically between three of us. The magnificent ridge of the AIGUILLE DE GRÉPON looked, and felt, all the colours of fire in the sun. On the summit—to which we gratifyingly out-paced two ropes headed by young Alfred Couttet—the eighteen years since the 'last time'—were not! An absurdly artificial free *Abseilung*, to the flake at the foot of the 'Knubel' Crack, now practised by the Chamoniards, rediscovered a few grey hairs. A wet-freezing descent of the fresh snows on the Nantillons fall, as a hauled or embraced package, pulped any remaining senile satisfaction: and the Rognon rocks, when taken unroped and chilled, seemed a horror. But a leisurely dot-and-go-one back to the Montenvers, under a late sun that scorched Hans's sack too hot to hold on by, restored the balance of Alpine pleasure. Eighteen and a half hours, altogether. The short season ended on the discipline of Oberland tracks; with the Great Aletsch Glacier, from Eggishorn to Concordia, and Concordia to bad weather, providing its usual wider digressions into the unrealised hope.

GEOFFREY WINTHROP YOUNG.

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CANADIAN AND AMERICAN NOTES.

Levelling up Mount Whitney.

The official height of Mt. Whitney, the highest point within the United States outside Alaska, has been changed frequently since the summit was first discovered in 1864 by Clarence King and Richard Cotter of the California State Geological Survey. These early surveyors dispelled the rather vague notion of a range of mountains 17,000 ft. high standing on the E. side of the Sierra Nevada range, and gauged the new-found peak to be some 350 ft. higher than Mt. Tyndall, the one upon which they stood In July 1864, Clarence King again attempted to reach the summit of Mt. Whitney, but failed by 300 or 400 ft. According to the most reliable calculations King had reached a height of 14,740 ft., so that the summit of the mountain was estimated to be about 15,000 ft. The *Times Atlas* still persists in giving Mt. Whitney this altitude despite the fact that later surveys have shown the summit to be some 500 ft. lower, and until last year the height of 14,501 ft. was the generally accepted one. Being exactly half the height of Mt. Everest this was a convenient figure to remember, but the U.S. Coast and Geodetic Survey spent part of the summer of 1928 in depriving Mt. Whitney of this touch of sentiment. The height of Mt. Whitney has changed again, and again for the worse, but this time the drop is not a serious matter. Mt. Whitney still raises its lofty summit above that of any other peak in the Union.

In an article on 'Levelling Up Mount Whitney' in the 1929 number of the Sierra Club 'Bulletin,' Mr. William Bowie, Chief, Division of Geodesy, U.S. Coast and Geodetic Survey, declares the revised height of Mt. Whitney to be 14,495·811 ft., or roughly 14,496 ft. above sea-level, and describes the difficulties under which the work of first-order levelling was carried out. It appears that Mt. Whitney is the first mountain in California to be honoured with first-order, or precise levelling, work of sufficient accuracy to involve an 'average correction to a line of levels necessary to close a circuit of ·1 mm. per kilometre, or ·006 inch per mile.' The object of this work is explained by Mr. Bowie in his article: 'The determination of the elevation of Mt. Whitney by first-order or precise levelling is part of the co-operative work of the Coast and Geodetic Survey and the Committee on Seismology of the Carnegie Institute of Washington. The purpose of the work is to lay the foundation for the detection of vertical and horizontal movements of points on the earth's surface between earthquakes, and also to determine the amount of movement that may occur during any one earthquake. Some time in the future the Mt Whitney levelling will, no doubt, be repeated, in order that we may learn whether or not that great mountain mass is rising or sinking.'

A. E. Gunther.

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FIG. 1. Head of NORTH THOMPSON VALLEY from Mt. SIR JOHN THOMPSON

All the foreground slopes drain to Raush ("Big Shuswap") River. The pass between head of Raush and North Thompson rivers at right of view. Gold Range dimly visible in distance at extreme left.
View is from S.E. to S.W.

Photo, Mrs. Don Munday.

RAUSH ("Big Shuswap") RIVER VALLEY.

FIG. 2. Panorama from Mt. SIR JOHN THOMPSON.

Two spurs of Thompson in foreground. Glacier in right lower corner is the one Mr. Carpe assumed to be source of North Thompson River, and the pass to the Raush River to be half-way aiong the section of the Raush River shown at the right of the right spur of Thompson. The pass actually is at left margin of view. Quesnelle Lake drainage system in extreme distance in centre. View is S.W. to N.W.

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Source of North Thompson River.

Perhaps the following short article and photographs may be of interest as settling definitely the question originally raised by me in connection with the source of the North Thompson river in the Cariboo Mountains, when, as the result of the ascent (first) of Mt. Sir John Thompson in 1925 by my wife and myself, I corrected in the 'Canadian Alpine Journal' Mr. Allen Carpe's conclusions from his ascent of Mt. Sir Wilfred Laurier (Mt. Titan).

I use throughout the names adopted by the Geographic Board. Though aware of these decisions by the Board, I note Mr. Carpe persists in using the old names.

With reference to Mt. Albreda, two resident engineers on the construction of the Canadian Northern Railway, now Canadian National, were, and are, convinced that their assistants made a complete ascent, but all parties concerned have been through the Great War since, with the result that Mr. Carpe's party must be granted the first *recorded* ascent.

In the Alpine Journal, **37**, 75, Mr. Allen Carpe states with respect to the view from Mt. Sir Wilfred Laurier, which he calls Mt. Titan: 'the North Thompson river curves around it (now Mt. Sir John Thompson, which he calls Mt. David Thompson) like a great horseshoe, flowing at first almost due W., then turning in an enormous arc through nearly 180° to its confluence with the Albreda river, 40 miles to the S.E. . . . Immediately N. of the source of the North Thompson, somewhat between us and Mt. David Thompson, was a long ridge-shaped mountain of considerable height (nearly 11,000 ft.) which separates the North Thompson from the Shuswap (Raush) river.'

In the 'Canadian Alpine Journal,' 1925, p. 131, I said: 'These conclusions are mistaken ones. Mr. Carpe simply beheaded the Shuswap W. of Mt. Hostility (the 'ridge-shaped mountain') and presented it to the North Thompson. The latter river actually heads in low country about five miles W. of Mt. David Thompson.'

Mr. Carpe's parties have been singularly unfortunate in the matter of commanding viewpoints and visibility conditions in connection with the four chief rivers in this section of the range. As the result of admittedly incomplete views from Mt. Albreda, Mr. Carpe records in the 'C.A.J.,' 1926–27, p. 243, his conclusions that the source of the McLennan River is in the Mt. Stanley Baldwin group ('Mt. Challenger'), while the Cance River heads where Professor Holway concluded the McLennan did between Mt. Sir Wilfred Laurier and Mt. Sir John Thompson. Mr. Carpe suggests that my wife and I must have had a good view down this valley from the latter mountain when we made the first ascent. In this he is correct, and it is the McLennan valley as Holway said.

Figs. 1 and 2, which are views obtained by us from the summit ridge of Mt. Sir John Thompson, clearly reveal the true relation of

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this mountain to the Raush and North Thompson rivers. The actual crest of the pass between their headwaters is not seen. Not far below the pass are shown the meadows through which the diminutive Raush river winds (Fig. 2); then there is a sharp descent of at least a thousand feet, the valley becoming V-shaped; here the river is visible in only four places, two being sheer waterfalls. When the river reappears to the right of the snow and rock shoulder of Thompson it has been swelled greatly by drainage of the glaciers seen in Fig. 1, by others below the line of vision, and by the big northern glacier of Thompson which Mr. Carpe assumed to be the source of the North Thompson as already quoted. The Raush river is thus shown as being a stream of considerable proportions flowing N.E. before reaching its actual junction with its supposed headwater stream from the glacier between 'Mt. Hostility' (whose westerly spur shows in the right of Fig. 2) and Mt. Sir John Abbot ('Kiwa'). Mt. Sir John Thompson obviously drains solely to the McLennan and Raush rivers.

While it might not be unreasonable to conclude from the summit of Mt. Sir Wilfred Laurier that Mt. Sir John Thompson formed the source of the North Thompson river, we did not find the view as convincing as we had been led to believe from the account of our predecessors on the peak. Despite its superior height, Mt. Sir Wilfred as a viewpoint leaves a good deal to the imagination so far as concerns the headwaters of the North Thompson and Raush rivers.

W. A. Don Munday.

ACCIDENTS IN 1929.

The last season has been described as one in which 'no new ascents have been recorded' and as 'a summer remarkably free from accidents': other authoritative newspapers report it as one of the most disastrous on record. We fear that the latter description is the true one. Up to September 20, in all over 100 persons are reported to have lost their lives in what can be described strictly as 'Alpine' accidents. Excluding the Eastern Alps, which as usual head the melancholy roll, the majority have occurred on well-known peaks, and French mountaineers have again suffered severely. Again we are forced to repeat that the greater number of these accidents could have been avoided with a little care and foresight. Recklessness and want of experience seem to have reached their zenith in 1929.

No members of the Club, we rejoice to say, have lost their lives. Several are, however, largely indebted to Providence.

One of the most pitiable of accidents is that which occurred on La Meije to two young mountaineers, survivors of the drama of the Petit Dru of August 1928 ('A.J.' **40**, 420–3), and on whose gallantry we had the privilege to comment. MM. Choisy and Clot were attempting

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—it has been impossible to obtain details—to reach the summit from the N. by the great ice couloir leading up to the Brèche Zsigmondy.[1] Clot slipped and pulled off the leader, both falling down the precipitous couloir till Choisy's body, arrested by the bergschrund, stopped the fall. Choisy was killed on the spot and Clot severely injured. The latter, with all his former intrepidity, could not be deterred from accompanying the guided search party which successfully brought down the corpse. M. Choisy, who was only 25, might have become a great mountaineer, and his loss is deplored deeply in French mountaineering circles.

The accident appears to have been due to the extremely icy conditions universal this summer. We also must add that it arose from the dreadful modern habit of not cutting steps and relying, it seems, solely on the use of crampons.

Fatal accidents have occurred on the following mountains among others: Les Écrins, La Meije (3), Grandes Rousses, Mt. Aiguille, Mt. Emilius,[2] Mont Blanc (3), Aiguille des Grands Montets, Col de l'Étala, Petits Charmoz, Grépon,[3] Dent Blanche, Matterhorn (2), Monte Rosa (Dufourspitze), Doldenhorn, Jungfrau (3), Wetterhorn, Düssistock, Glärnisch, Kurfirsten, Piz Bernina, Cacciabella Pass,[4] etc.

There appear to have been a remarkable number of accidents from stone-fall and several from lightning, the former caused, obviously, by a second warm summer in succession following a very scanty spring snow-fall with heavy rain in early June. We have never seen mountains so denuded of snow, nor so much ice on the glaciers. Late June had all the appearance of mid-September.

The Accident on the Dent Blanche.

On September 2, 1929, we—Franziskus Taugwalder (guide) leading, Alfred Aufdenblatten (guide) as third man, with the writer in the centre—were ascending the slab wall below and S.W. of the 'Grand Gendarme' when a party, climbing ahead of and beyond us and nearing the ridge above, dislodged a large rock (about 1 metre by ½ metre—3–4 cwt.) which came bounding down the face of the rock wall. It hit our leading man, Franziskus Taugwalder, at the side of the back and threw him into space, small stones or splinters struck the writer (second man). The pull on the rope by Taugwalder jerked me into space. On landing I was able

[1] *Climbers' Guide*, 1905, pp. 62–3.

[2] This accident, in which three Italians lost their lives, occurred on the extremely steep N. face, only once successfully attempted, we believe. *R.M.* xlviii, pp. 270–2.

[3] Press accounts describe the victims as falling *into* the 'Mummery' *crevasse*.

[4] The W. slope of these very easy passes is, at times, extremely dangerous from falling stones—as on this occasion.

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to secure a hold on a rock for a few seconds, thereby affording the third man, Aufdenblatten, time to jump down to a rock which offered a solid belay, and of securing the rope just in time to prevent the continued fall of Taugwalder from pulling me down farther and dislodging himself. It was a superb effort on Aufdenblatten's part, magnificently carried out in a flash.

Our leading man, Franziskus Taugwalder, must have been killed instantaneously when struck by the rock, for he uttered no sound. He fell about 90 ft. and the writer about 48 ft.

As soon as the news reached Zermatt a large number of guides and skiers immediately came to the rescue, and reached the foot of the Wandfluh in record time, whither other guides on the Dent Blanche (Joseph Georges, Franz Imboden, Alexander Graven, Anton Julen and Oskar Julen) had, with great difficulty, helped the writer.

RICHARD KAY.

Mr. Kay sends further details: 'I ought to add that had the rock come down *straight* as it did at first, it would have missed us entirely, but it suddenly changed its course and dashed right at us . . . the other party were about 40 m. above us and half of that to the side [*i.e.* about 65 ft.; thus the fatal accident may be described as an Act of God—*Editor* 'A.J.'] . . . There were really four miracles: (1) The rock might just as well have hit all three of us; (2) Taugwalder reached the end of his length of rope whilst still in the air—in a flash—had the same happened to me, all three would have been lost, for Aufdenblatten *then* had no hold of any sort, but I came down on the wall with a bit of rope to spare and thus there was no pull on Aufdenblatten; (3) my working hard for a grip on anything . . . until pulled off by poor Taugwalder continuing his dreadful fall, enabled Aufdenblatten to take stock and carry out his wonderful saving act; (4) had the rope been the least bit longer my head would have crashed against the rocks, as my body did, in the final fall. Nothing could have saved poor Taugwalder.

'As regards the fall, the rope was 29–30 m. long; Taugwalder was 3–4 m. above me and there were 10 m. of rope between us with 13 m. between myself and Aufdenblatten, the latter's jump down was about 3 m. I am making a good recovery . . . but the 10 hours between the accident and my arrival at the foot of the Wandfluh will not be forgotten easily, almost entirely crippled as I was. Had it not been for the devoted help of those five men I have mentioned, at first Georges and Imboden, and the last five hours, Alexander Graven, the Julens plus Georges again, I could never have got off the mountain. The reserve parties' transport work on the glacier and down the morain was also beyond praise. . . . The death of Franziskus Taugwalder [5] is particularly distressing, for we had climbed together for ten years and been good friends. . . .'

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[5] Great-nephew of 'young' Peter Taugwalder of 1865 Matterhorn fame.

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The Accident on the Matterhorn.

On August 15 last, the well-known mountaineer, ski-tourist and aeronaut, Victor de Beauclair of Fribourg, ascended the Matterhorn with the two Fräulein Scheiss and the guide Hans Kohler, junior. The latter had one of the young ladies on his rope, de Beauclair the other. A few minutes below the old Matterhorn hut, Beauclair, being last of the party, climbed out of a chimney and around a big rock to which he was clinging. The said rock gave way and he fell, together with his lady companion, some 150–200 m. The late Franziskus Taugwalder with a tourist were just behind them when the disaster occurred. The bodies were brought down next morning.

De Beauclair was 54 years of age at the time of his death. As a mountaineer he had to his credit a great many peaks, especially in the Bernese, Uri and Valais ranges, accomplished without guides, as also several first ascents and new routes, especially in the Uri mountains (part of the Uri *Climbers' Guide* is due to him). Before climbing the Matterhorn, he had accomplished last summer the Eiger by the *Mittellegigrat*, Fiescherhorn, Finsteraarhorn, Tschingellochtighorn and Riffelhorn from the glacier. He had once also with his close friend, the late Doctor Robert von Wyss, made a bold attempt on the great western wall of the Schreckhorn, bivouacking after having attained a great height. He was always very careful: in fact, he had insisted on awaiting in the Solvay hut the finish of a thunderstorm before completing the further descent of the Matterhorn.

As an aeronaut, he was, in 1908, the first pilot to cross the Alps from N. to S.; he also flew over the Eastern Alps to Triest, Pola, and over the Adriatic to Pisa, and also, in three days, from Glarus to the Gulf of Genoa, etc.

His first crossing in winter from the Grimsel over the glaciers to Brigue on ski, in 1899, with the Paulcke party, will not be forgotten and caused at the time a considerable sensation.

P. M.

The Accident on the Doldenhorn.

MM. Auguste Mottet and Oscar Buser, both members of the A.A.C., Berne, and the S.A.C., were killed on the 'Gallet' arête of the Doldenhorn, *i.e.* on the N.W. rib leading to the N.E. arête of the mountain, on July 21 last.

Auguste Mottet had been for many years one of the leading Swiss guideless mountaineers and ski tourists. Captain Farrar refers to him in 'A.J.' **31**, 214. While the leader, most probably Mottet, was climbing at a late hour the highest rocks of the said N.W. arête, his companion must have fallen from the ice steps below him, while both men were concealed from view by fog or cloud. Both were killed.

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This route had been first accomplished by Monsieur Julien Gallet, our Honorary Member, with Abraham Mueller, senior, and J. Kalbermatten, in 1899,[6] and has been followed several times since, although steep and not devoid of serious difficulties. A brother of Buser, an aviator, first perceived the bodies from above, flying down as low as 30 m. above the snow. They had fallen about 1000 ft.

Auguste Mottet was for a number of years a partner in the sporting firm of Th. Bjoernstad & Co., Berne. He had climbed without guides most of the great Alpine peaks, usually by their more difficult routes and many of them in winter on ski. With his close friend Gysi (killed last year when they were climbing together on the Rottalhorn),[7] he had made a very daring attempt on the S. face of the Gspaltenhorn, traversing eventually over on to the Tschingelspitze. Other new ascents of his are the Tschingelfluh (point 2826 m.), the Gstelliburg (Engelhörner), the first descent from the Silberhorn over the Rotbrettgrat (Sir Seymour King's route), first traverse of the whole 'Mittelgruppe' (Engelhörner),[8] first entire ascent of E. arête of the Breithorn from the Schmadrijoch, Spillgerten (S. arête, N. face and W. arête), Teufelsjoch from the Ochsental, S. descent of the Klein Simmelistock, etc.; the descent of part of Blümlisalp-Morgenhorn E. arête, and then down the S. face to the Kanderfirn. He was a small, sturdy man of about 47 years of age, very enterprising and of great powers of resistance and determination. In the face of all kinds of difficulties he never lost his optimism, invariably retaining that gay disposition of mind which procured him so many good friends. Although not a very fast climber, he bore a high reputation among mountaineers. A captain in the Swiss army, he led some years ago the whole International Ski Congress, some fifty men, in very foggy weather from the Jungfraujoch to the Concordia over the Lötschenlücke in the most masterly manner. Two years ago, in winter, while unroped on the Lange Glacier, he fell into a crevasse some 50 ft. deep. He was suspended on a block of ice, and, never daunted, contrived to climb up three-quarters of the wall by himself, making holes with his ski sticks, before a rescue party arrived. R.I.P. P. M.

REVIEWS.

Sur les crêtes du Mont Blanc. By Jacques and Tom de Lépiney. 7½ by 5½. Pp. vii + 178. Illustrated. Dardel, Chambéry. 1929.

'MONT BLANC yet again.' Any work by the MM. de Lépiney, who have done so much towards modern mountaineering in France, is

[6] 'Dans l'Alpe ignorée,' pp. 155–63.
[7] *A.J.* **40**, 424–5.
[8] Two of his excellent photographs appear in this volume.

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welcome. When we add that the book is admirably written, beautifully illustrated and of surpassing interest, we are merely telling the simple and unvarnished truth. But with the lessons of 1928–1929 still fresh before our minds, with the outcry in France, the consternation in certain circles, is not the book, frankly, a dangerous one ?

The brothers' literary style is restrained, straightforward and cold-blooded; the tales of mountain prowess, and, we fear, of mountain rashness, are all the more impressive for that. Here is the list of the principal ascents described, many of which, including even the names of certain peaks, unknown before 1919 :

La face italienne du Mont Blanc.
Les Clochers de Planereuse.
La Pointe de Lépiney.
L'Évêque.
Le Trident et le Clocher du Mont Blanc du Tacul.
L'Aiguille du Peigne.
La Pointe Lagarde et l'Aiguille Verte.
L'Aiguille du Plan.
L'Aiguille de Blaitière.

These comprise many of the most difficult and dangerous ascents ever attempted in the Alps. Is it ' mountaineering ' ? Or is it desperate acrobatism ? We must, deliberately, incline to the latter. The parties actually set out to attempt new scrambles entailing the certainty of a bivouac—for all their skill, for all their speed—in weather not fit for an ascent of the Aiguille de l'M.

Throughout these pages we find but one ascent—Aiguille du Peigne—in which reasonable weather is encountered, and but one, Col de la Brenva, a magnificent exploit, carried out in accordance with the best traditions. What can be said of the descent of the Petit Clocher de Planereuse, in which two of the party rope themselves down into space with no idea of where they will land, or of the Aiguille Verte from the Argentière side in shocking weather, with a descent by the ' Whymper ' couloir, smothered in avalanches ? ' C'est magnifique mais ce n'est pas de l'Alpinisme.' Such incidents, or the unbelievable episodes—did we not know that they are less than the truth—of the night ascent of the Chamonix face of the Aiguille du Plan, where for hours in total darkness, across that terrible slope of ice, Henry de Ségogne followed heroically his leader, his sole support—a pocket knife : such dramas, we are obliged to say, should not be allowed to see the light of day. All the younger school of mountaineers in France, and not only in France, have looked up, and with admiration, to the example of the brothers de Lépiney and their friends as the ideal of modern mountaineering. But in this work, alas, we fear it is ' Death or Glory ' that is quietly and modestly preached.

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The book will be read with interest as thrilling as the study of that chapter of Geoffrey Young's describing the nightmare of the Täschhorn. Thousands will purchase it, none will lay it aside unfinished; most, as the reviewer did, will devote a continuous sitting to it. But have not the MM. de Lépiney, fearless and accomplished as they are, incurred a grave responsibility towards the G.H.M. and the younger school of mountain-scramblers throughout the world?

Climbs and Ski Runs. By F. S. Smythe, with a foreword by G. Winthrop Young. Pp. xx + 307. Illustrated. Blackwood & Sons, Edinburgh. 1929. Price £1. 1*s*.

THIS book can be reviewed in one phrase—good and productive of good. Many of the articles, or at any rate similar accounts, have appeared already in the ALPINE JOURNAL, but these should appeal greatly to the general and intelligent public, since there is no one better qualified than Mr. Smythe either to describe a difficult climb or to give his opinion on mountaineering, avalanches and the ethics of both. He writes in a lucid, straightforward style, but we prefer him when certain flourishes are omitted. On the whole we like his chapters on the Fervall (Arlberg) and Dolomite districts best. The night descent and adventure in the Langkofel Group is admirably described, while Mr. Smythe never fails—where necessary—to point out his own youthful follies and indebtedness to what Mummery described as the Great Goddess Luck. The book, of course, relates again, and the tale is well worth repeating, the tremendous expeditions on the S. side of Mont Blanc and the superb climb up the E. face of the Aiguille du Plan. Mr. Smythe once made an attempt on another part of that mountain's anatomy and we might wish that he could have added that chapter, if only to point a moral.[1] The storm on the Schreckhorn with its baleful 'green ray' is exciting reading and only a party of real mountaineers could have extricated themselves successfully. The ghost on the Brenva face is new and eerie.

As to the winter and ski chapters, at last we have something written in English by a mountaineer and about *mountains*, as opposed to ski-runs. It is very well written too. Would there were more Smythes or Amstutzs in the winter Alps as there were in former days. A revival is coming, however.

The book is very well brought out and excellently illustrated—for a British publisher—and the loose paper cover is instructive as well as beautiful.[2] But few of our firms can do real justice to Mr. Smythe's splendid photographs, at a reasonable price.

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[1] The omission is doubtless right; a dozen die-hards would have been 'at it' by now.

[2] The reference to Edward Whymper on the said cover should be deleted.

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As the book is sure to go through further editions, we feel compelled to point out a list of consistent mis-spellings, which the proof-reader has passed: Lognon, Argentiere, Rhone, Höerlin, Gugliamina, Höhe Tauern, Gelb Wand, Mer de Glâce, Brêche, Réquin, Grande Gendarme, Aiguille du Grépon, Grands Jorasses, Kaiserschmarren, etc. These should not have been overlooked.

Guide des Alpes Valaisannes. Vol. II. Col Collon to Col de Théodule; second edition. By Marcel Kurz, assisted by Count Aldo Bonacossa. Published on behalf of the S.A.C. Pp. lxxx + 344. Profusely illustrated. Payot et Cie, Lausanne, 1929. Price 10 fr.

It has been our luck to review many Climbers' Guides, good and indifferent, but this, the latest, seems to us to be above ordinary criticism. Monsieur Kurz has had great experience in preparing similar works and has reduced the science to a veritable fine art. The book marks a fresh departure: the numerous useless variants, so well described in the late Mr. Raymond Bicknell's classical phrase: 'Those mistakes which it has now become the fashion to classify as variations,' and to which he at the end, alas, fell a victim himself, are ruthlessly excluded. The admirable illustrations, the best we have seen so far in any Climbers' Guide, are not defaced by intersecting lines; only the main and proper routes are indicated and that with remarkable clearness. We are compelled to quote in full the third paragraph of the author's preface. It is full of prophetic wisdom and appears to us to sum up—perhaps pessimistically—the future of Alpine mountaineering:

'Toute exploration utile étant désormais terminée, l'ère des casse-cou va commencer sans transition bien définie ni caractéristique. A vues humaines, c'est, dans l'exploration de nos Alpes, la dernière phase et la moins intéressante: celle du "fignolage," de l'interpolation des routes, amenant à inventer et à réaliser des itinéraires absurdes et dangereux, ceci pour la pure gloriole. Singulière déviation de l'alpinisme, à l'heure même où les routes importantes, classiques, perdent, trop rapidement le prestige du danger, par suite des commodités modernes et des perfectionnements techniques. Témoin cette arête de Z'mutt au Cervin, gravie une douzaine de fois seulement avant 1911 et qui actuellement est devenue, selon l'expression de Mummery, "une course facile pour dames."'

The book is divided into nine sections, of which the last and not the least useful, *Chaîne des Grandes Murailles*, is by Count Bonacossa.

We will make no attempt to analyse any of these sections, the mountaineer can do this readily himself, but we will add that they are of extraordinary interest and that the geographical note at the head is given with the skill that only topographers such as a Kurz or a Bonacossa could impart. What gives us extra pleasure is to note under *Tête du Lion* (from the N.) and *Col du Lion*: 'Il est immoral de recourir à des professionnels pour suivre ces itinéraires.' Quite so; let the foolish amateur break his neck there, preferably alone.

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The following are the sections:

I. Groupe des Bouquetins.
II. Groupe de la Dent Blanche.
III. Groupe du Grand Cornier.
IV. Groupe du Gabelhorn-Rothhorn de Zinal.
V. Groupe du Weisshorn.
VI. Groupe des Barrhörner.
VII. Groupe des Diablons.
VIII. Groupe du Cervin.
IX. Chaîne des Grandes Murailles.

The *Notice Toponymique* is doubtless of great value, but its forty pages are not suited, to our mind, to a Climbers' Guide carried in the pocket on a mountain; it has, moreover, delayed greatly the publication of the book. The *Notes Pratiques* are most useful, but will be difficult to keep up to date: they describe the communications to the various valleys mentioned in the text.

We have not searched either the Guide or our memory for errors; M. Kurz assures us that such must exist. Enough to say that we have found little or nothing to criticize and a vast deal to praise. Perhaps the 'simplicity' of the book is its chief asset, no mean advantage in a Climbers' Guide. Gone, as we have remarked, are the numerous inane variations perpetrated of late years, especially on the *Dent Blanche*—where even in the ALPINE JOURNAL we can read of Finlayson's 1863 variation, if not Kennedy's original 1862 route, given as a new and guideless expedition in 1912! Similar atrocities on the Weisshorn, Zinal-Rothhorn, and Gabelhörner are likewise no more.

Of all these sections that of the *Barrhörner* must have given most trouble; some of it was compiled, doubtless, before the existence of the new Topali Club hut, but that has in no ways marred the clearness or excellence of the text.

In the *Addenda*, pp. 337–9, we note the construction, or intention thereof, of three new Club huts: 'Tracuit,' close to the col of that name, which will prove of great service; 'Guillaume Rossin,' at point 3729 m. on the S. arête of the Dent Blanche, which will prove just the reverse; and 'Col Collon.' Some of the 1928 new routes are mentioned in these *Addenda*. The 'Theytaz' variation of the N. arête of the Dent Blanche is tersely and justly described as 'route dangereuse à souhait, constamment balayée par les pierres.'

M. Kurz begs all mountaineers to communicate any errors in the text to him, personally, at Neuchâtel. Very few will be found, and we congratulate him most heartily.

The Himalayan Journal. Vol. 1, No. 1, April 1929. Records of the Himalayan Club, edited by Kenneth Mason. Thacker, Spink & Co., Calcutta. Pp. ii + 150. Illustrations and maps. $8\frac{3}{4} \times 5\frac{1}{2}$ inches. Rs. 5 or 8*s*.

THE successful launching of the Himalayan Club reported in the ALPINE JOURNAL for May is consummated by the issue of the first

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number of the *Himalayan Journal*, to which we extend a most cordial welcome. The Committee of the Club, with the Editor, are to be congratulated on their decision to indulge that catholicity of interest which is the outstanding characteristic of the attractions of the Himalayan region. It is indeed directly due to the variety of attractions offered to the traveller in the Himalaya that so few actual mountain ascents have been accomplished. It is impossible for the intelligent visitor merely to regard the Himalaya from the point of view of the confirmed 'alpinist.' In this, the greatest mountain region of the world, diversities of race, of animal and plant life, of climate and of geology are greater than in all Europe. Every faunal association, from tropical to arctic, is represented. Then there is shooting—a barbarous pastime, I am told: but amongst big-game hunters there appears to be a consensus of opinion that in the Himalaya stalking attains its ideal type. Nowhere does the sportsman work so hard for so small a bag, partly owing to the wise restrictions on the shooting permits which allow only one or two of the oldest bucks to be killed, and partly owing to the scattered distribution of the game. Nowhere will he find more difficult quarry than the markhor, ibex and sheep of the Himalaya. Four months' 'leave,' four months' poor living, four months' daily fatigue, and four good heads to bring back! I sometimes wonder if we really are such barbarians after all. But even more insidious to the moral of the real Simon Pure is the lure of exploration. Owing to its vast extent, and to the peculiar difficulties of transport and supply, the topographical mapping of the Himalaya is very far from complete, and the region offers an ideal field for the mountain explorer which will remain unexhausted for many years to come. The would-be climber, intent originally only on the conquest of new peaks, is beset by temptation on every hand, leading him along a variety of other paths, each of which leads to the unknown.

From the dawn of literature Himalaya has been accounted a sanctuary, and happily its devotees need not fear that the blighting hand of development or progress will mar its virtue. Indeed, in some respects it is likely to become less rather than more accessible; for example, the cost of transport is increasing and the practical abolition of village responsibility for passing the traveller along makes arrangements more difficult; while an extreme sensitiveness to any appearance of a policy of 'expansion' or any suspicion of political motives—which have never had any foundation!—has caused the Government of India to place increasing difficulties in the way of travellers, especially its own officials and officers on leave, who wish to explore the frontier zones.

The many diverse charms of the Himalaya are admirably typified by the variety of contents of the first number of the *Himalayan Journal*. Our fellow-member, Sir Geoffrey Corbett, opens with an account of the formation of the Himalayan Club. The same author contributes a finally authoritative paper on the word Himalaya, which settles once and for all that the word ought to be pronounced

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with the first *a* long and the last two short—Himālăyă. Mr. Ludlow follows with an all too brief description of his visit to the great Shyok ice-dam caused by the recent advance of the Chong Kumdan Glacier across the gorge below the Rimo Glaciers, which has led to the formation of a ten-mile lake, the sudden bursting of which would cause disastrous damage in the lower Shyok and Nubra valleys. The writer doubts if this huge barrier can be suddenly broken: it appears more likely that, probably this summer, the lake will 'lip' the barrier of the glacier and the running water will then quickly cut down an outflow channel. There would certainly be a bad flood in the Nubra Valley, *up* which the flood-waters would penetrate. The whole flood-plain opposite Thirit and Deskit would become a temporary lake, owing to the holding up of the Shyok flood-water in the gorges about Biagdangdo, and still farther down the orchards of Khapalu might be overwhelmed. Major Kenneth Mason follows with a useful summary of the history of the Indus and Shyok floods, which in the past have been confused with one another (see *Geogr. J.*, June 1910: vol. xxxv. p. 648). Mr. Hugh Whistler contributes a most readable paper on the birds of Kashmir, and Mr. Kingdon Ward on the botany of the Mishmi Hills, both emphasizing the zoning of communities according to altitude, which makes High Asia such a delightful field for the naturalist, who may explore a series of new faunal regions one after the other by merely (save the mark!) walking straight up the side of the valley in which he is encamped. Dr. de Graaf Hunter takes us off into the pure air of physical science in his article on 'The Attraction of the Himalaya': his name and authority are so widely known that we do not fear sentimentality, but get at the egg-meat of gravity and isostacy! One of the difficulties of calculating the mathematically exact height of any very high peak is the horizontal pull which the actual mass of that peak exerts through its own gravity on your instrument, which is graduated for normal places where gravity only acts downwards. Short notes of prospects and possibilities in unknown districts ought to be a great feature in such a journal as we are reviewing, and we look for more in the manner of Colonel Schomberg's note on the Urta Saryk Valley, north-west of the Tien Shan, and Mr. Maclagan Gorrie's on the Haran and Runang passes of Kanawar.

Mrs. Lethbridge in 'A Journey Through Spiti and Rupshu,' and Major Shewen in 'The Way to the Baspa,' contribute two short but excellent papers, plain, well-written narratives of travel in the maze of mountains and states beyond Simla. Though there is no particular mountaineering achievement to record, both of them should be learned by heart by any Alpine aspirant to Himalayan honours. Study them with the Survey maps before you. Gradually it will dawn upon you that this part of the Himalaya offers an unlimited field to the mountaineer, although it contains few named and hardly any famous peaks. It is just the place

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for two or three climbers with a bare two months at their disposal. Every peak is virgin, except the Nela peak, 19,069 ft., in Bashahr, and Shilla, 23,050 ft., both of which were climbed by Surveyors ('A.J.' **25,** 400). The papers before us give an excellent picture of the daily realities of Himalayan travel, from the luxury of the region of rest-houses to the rigours of the Parangla. It will be obvious how a large party with an expensive caravan would impede success. With a decent servant and a smattering of Hindustani expenses should be about the same as in the Alps. Ship your climbing kit, fly to India, climb three new peaks, and be home in nine weeks! It would be interesting if the *Himalayan Journal* could see its way to publish a brief list of the different groups of peaks in these districts, grouped as to geographical accessibility.

Mr. Ruttledge contributes a note on his first attempt with Brigadier Wilson and Major Carfrae on Traill's Pass in 1925, but we have already had the privilege of publishing an account of this and of the second and completely successful crossing of the pass in the following year in the JOURNAL.[1] 'Himalayan Expeditions,' and 'Himalayan Notes,' are most useful and informative, together with a dozen 'Reviews,' while the 'Proceedings and Club Notes' show a multitude of activities. The get-up of the Journal is good and the frontispiece is the view of K2 from Staircase Peak by H.R.H. the Duke of the Abruzzi, in the judgment of the writer the best mountain photograph ever taken.

In extending a sincere welcome to the *Himalayan Journal*, the Alpine Club cannot be completely altruistic: for the formation of the Himalayan Club and the publication of such a journal is of the most direct assistance to any Alpine climber intending to visit High Asia. The organization of the Club, with a dozen local secretaries and local correspondents, besides scientific and technical correspondents and local assistant editors, instead of into local sections as on the Continent, seems admirable, and produces an excellent organization for that collection and publication of information which forms so important an element in the objects of the Club. Finally, we would heartily congratulate the members of the Himalayan Club and of the Mountain Club of India on their mutual amalgamation. India is a very big place and Calcutta is far from Delhi, but even so each unit will benefit by that union now so happily achieved.

The American Alpine Journal.

WE welcome very heartily the appearance of the first number of this new publication. It is not actually the first publication of the American Alpine Club in its twenty-six years of life. At various times it has published finely illustrated 'Alpina americana.' Nor is this the first mountaineering club in America. There have

[1] *A.J.* **40,** 33–7.

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been many others, beginning with the Tramontane Order in 1716 —the members of which were annually to climb Mount George in Virginia and there drink to the health of the King—but it is the first distinctively Alpine club in the United States, and this is the first American Alpine journal. It is an excellent number in matter and in plates. It is concerned chiefly with climbing in Canada, for, as an interesting article explains, the climbing in the United States is rather excursion mountaineering than climbing more proper: 'Owing to the comparative absence of snow and ice, alpenstocks and ice-axes are seldom carried [on the United States ranges] . . . The climbing is on the whole a matter of rock rather than snow and ice work.' Other articles are on the ascent of Mt. Redoubt, on the Fairweather Mountains; the first ascent of Nettie L. Mountain, new ascents near Maligne Lake, Mounts Charlton, Sampson, Warren, The Thumb; the Whirlpool Mountains; Purcell Range. There is an interesting article on 'Moods of the Mountains and Climbers,' which deals with questions not yet to be answered: 'Why do we climb? Why do we go to all the trouble? What do we expect of climbing and what do we get?' We get this excellent journal and many others similar, and we leave to our descendants the more proper answer to the questions put.

It is with great pleasure we give a hearty greeting to this new publication, wishing it and the Club a long and interesting life.

THE ALPINE CLUB LIBRARY.

By A. J. Mackintosh.

The following works have been added to the Library:—

Club Publications.

(1) **Akad. Alpenverein Innsbruck.** Bericht 1927–8. 9 × 6.
Appalachian Mn. Club. Register for 1929. 7½ × 5: pp. 141.
C.A. Belge. Bulletin, t. 6, no. 14–15. 9½ × 6¼: pp. 89: plates. Mars–juin 1929
C.A.F. Guide des porteurs brevetés 1292 Alpes-Pyrénées.
C.A.I. Bergamo. Mario Bernasconi, Itinerari sciistici della Zona Formico-Grioni. 6¾ × 4½: pp. 52: map, ill. 1929
Colorado Mountain Club. Local walks and short outings. 6¼ × 3½: pp. 39. 1929
(2) **D.u.Oe.A.-V.** Zeitschrift. Bd. 59. 10½ × 7¼: pp. vii, 292: ill. 1928
(2a) —— **Berchtesgaden.** Die Grill's aus der Ramsau. Eine deutsche Führerfamilie. 9 × 6: pp. 20: portraits. 1929
Notes on Johann Grill-Köderbacher, father and son.
—— **Freiburg im Breisgau.** Nachrichten, vierteljährlich. 8¾ × 5¾. 1928–9
Deutscher Alpenverein, Berlin. Tätigkeitsbericht 1928. 8¾ × 5½: pp. 13.
(3) **Himalayan Club.** The Himalayan Journal, vol. 1, no. 1. 8¾ × 5½: pp. 150: maps, plates. April 1929

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Ladies' Alpine Club. Year-book. $7\frac{1}{4} \times 5$: pp. 64: ill. 1929
Magyar Turista Egyesület. Négy évtized a magyar hegyek kösött 1888–1928. $9\frac{1}{2} \times 6\frac{1}{2}$: pp. 359: ill. Budapest, 1929
The Mountaineer. Prospectus Section. Lake O'Hara. 23rd ann. outing. 1929
—— Bulletin. 1929
Den Norske Turistförenings Årbok. $9\frac{1}{4} \times 6\frac{1}{2}$: pp. 268: plates. Oslo, 1929
Contains: O. H. Fureseth, Horen rett op fra Slingsbybreen.
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(9) **Bollettino del Comitato Glaciologico italiano.** N. 9. $10\frac{1}{2} \times 7\frac{1}{2}$: pp. 291: maps, ill. Torino, Tip. soc. tor. 1929, vii
U. Monterin, Variazioni dei ghiacciai ital.: *L. Peretti*, Gruppo Cenisio-Ambin: *C. F. Capello*, Gruppo Levanne-Carro-Baséi: *M. Bossolasco*, Gruppo d. Gr. Paradiso: *L. G. Nangeroni*, Glacialismo n. Media Valtellina.
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(10) **Cochrane, James.** The Horcones Valley. Ex Scot. Geogr. Mag. vol. 43. $9\frac{3}{4} \times 6\frac{1}{4}$: pp. 214–20: ill. July 1926
(11) **Corbin, Paul, et N. Oulianoff.** Carte géologique du Mont-Blanc. Notice explicative. Feuille: Les Tines; Chamonix. $8\frac{1}{2} \times 5\frac{1}{4}$: pp. 23 each. St. Maur-d.-Fosses, Jacquart, 1928
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(13) **Gaberell's album of Switzerland.** 288 illustrations in photogravure, 16 coloured plates. 11¼ × 8¾. Thalwil-Zürich, Gaberell, 1927
Fine illustrations, mountain and other.

(14) **Calciati, Cesare.** L'asalto alle piu alte vette del mondo, nel Caracorum. In Le vie d'Italia, anno 34, N. 12. 9 × 6 : pp. 976–87 : ill.
Dicembre 1928

(15) **Farquhar, Francis P., and Aristides Evangelus Phoutrides.** Mount Olympus. 11 × 7½ : pp. xiv, 47 : map, plates.
San Francisco, Johnck & Seeger, 1929

(16) **Ferrari, Agostino.** Nella Catena del Monte Bianco. Nuova edizione. 9¾ × 6¾ : pp. 280 : ill. Torino, Formica, 1929. L. 18
The first vol. of a series 'La piccozza e la penna.'

(17) **Flaig, Walther.** Der Arlberg und die Klostertaler Alpen mit den Grenzgebieten der südlichen Bregenzer Waldes. Ein Hochgebirgsführer. Wagner's Alpine Spezialführer 1. 5¾ × 4½ : pp. xxxiv, 286 ; maps, ill.
Innsbruck, Wagner, 1929

(18) **Gompertz, M. L. A. ('Ganpat').** The road to Lamaland. Impressions of a journey to western Tibet. 9 × 5¾ : pp. x, 246 : plates.
London, Hodder and Stoughton [? 1926]

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(20) **Haensel, Carl.** Matterhorn. Sechzehn Bilder zu dem Roman. 6¾ × 4½ : 16 plates. Stuttgart, Engelhorn, 1929

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Good photographs : some very fine.

(22) **Ledormeur, Georges.** Massif du Balaïtous. Ascensions. Supplément au Guide Ledormeur. 8¾ × 5½ : pp. 22. Tarbes chez l'Auteur, 1928

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The plates of the Alps are quite unusually good in clearness of detail : and pictures taken from the air show the relationship of peaks much better than can be shown on the earth-bound view.

O'Connor, V. C. Scott. Summer in India. In The Blue Peter, London. 10½ × 8¼ : pp. 280–91 : ill. June 1929

(24) **Perret, Robert.** Les panoramas du Mont Blanc. 10¾ × 8¾ : pp. xxii : (424) plates. Chambéry, Dardel, 1929

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Wien, Artaria, 1929

(25) **Die Schweiz.** Kleiner Reiseführer. Hsg. v. d. Schw. Verkehrszentrale. 7½ × 4½ : pp. 100 : map, ill. Solothurn, Gassmann, 1929

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Chambéry, Dardel, 1929. 5 frs. each

(27) **Steinitzer, Alfred.** Schule des Bergsteigens. 7¼ × 4¾ : pp. 166 : ill.
Stuttgart, etc., D. Verlags Ges., 1926

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(30) **Troll, Karl.** An expedition to the central Andes, 1926–8. In Geogr. Rev., New York, vol. 19, no. 2. 10 × 6½ : pp. 234–47 : ill. April 1929

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Haller, Albrecht. Poésies de, Traduites de l'Allemand. 6½ × 3¾ : pp. (iv), 226. Zürich, Heidegger, 1752

Leuthold's Post-Eisenbahnen- und Dampfschiffkarte der Schweiz. Zürich (*c.* 1860)

Presented by H. S. Thompson, Esq.

McGovern, Wm. Montgomery. To Lhasa in disguise ; an account of a secret expedition through mysterious Tibet. 8½ × 5¾ : pp. 252 : plates. London, Butterworth, 1924

Maus, Octave. Savoie. 13 × 10 : 37 plates. Paris, Fleury, 1911

100 copies printed, of which this is no. 50.

Meyer, Rudolf. Erinnerungen. Im Alpenrosen auf das Jahr 1852. 6½ × 4½ : pp. lvi. Aarau u. Thun, Christen, 1852

Tissot, Victor. Unknown Switzerland. 7¾ × 5¼ : pp. xiv, 371 : map, plates. New York, Pott, 1900

Turner, Samuel. Siberia. 2nd edition. 7¾ × 5 : pp. 320 : ill. London, Unwin (1911)

Vaillat, Léandre. Le cœur et la croix de Savoie. Chambéry-Maurienne-Tarentaise. 2e édition. 7¼ × 4¾ : pp. (iii), 355. Paris, Perrin, 1914

Zschokke. Reise auf die Eisgebirge des Kantons Bern und Ersteigung ihrer höchsten Gipfel im Sommer 1812, Meyer. 8 × 4¾ : pp. 45 : map. Aarau, Sauerländer, 1813

Subjects.

(*Numbers in brackets refer to Club Publications and New Books : other numbers are dates.* 1a = *first ascent.*)

Andes (30); d'Ansabère, Aig. N. (7); Arlberg (17).
Balaïtous (22); Bernina (12); Biellese (8); Birds, Kashmir (3); Botany, Mishmi Hills (3).
Dachstein S. face (2); Dru (19).
Winter equipment (5).

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1a 28 Fallersteizsp N. face (1).
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Glaciers (9); Glockner (2); Grisons (21).
Himalayan expeditions 27–8 (3); Club (3); the word (3); Horcones Valley (10).
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Tatra (28); Tauernhauptkamm (2); Tirols Hochgebirge (2); Tibet (18); Traill's Pass (3).
1a 28 Wechnerkogel W. face (1).

PROCEEDINGS OF THE ALPINE CLUB.

A GENERAL MEETING of the Club was held in the Hall, 23 Savile Row, London, W. 1, on Tuesday, May 7, 1929, at 8.30 P.M., Dr. Claude Wilson, *President*, in the Chair.

The following candidates were balloted for and elected Members of the Club, namely, Messrs. R. B. Hartley Bibby, E. Noel Bowman, and Raymond H. K. Peto.

The Regulations for the Winter Dinner as submitted by the Committee were confirmed.

The PRESIDENT announced with regret the death of Mr. A. D. Carlisle, who was elected in 1889. He was formerly a master at Haileybury. Mr. H. V. Reade and Mr. E. H. F. Bradby both said a few words.

The PRESIDENT welcomed the representatives of kindred Clubs in Great Britain to whom special invitations had been sent. Amongst those present were Mr. Wallace May, President, Mr. Claude E. A. Andrews, Hon. Secretary, and Mr. G. F. Brettell, Member of the Committee, respectively, of the Midland Association of Mountaineers. Mr. R. S. T. Chorley represented the Fell and Rock Climbing Club, of which he is Vice-President.

Mr. W. N. LING then read a Paper entitled 'Technicalities,' which dealt generally with the question of Equipment. A discussion followed, during which Mr. Eustace Thomas argued the subject of the difficulties experienced by the younger generation in gaining first-hand knowledge of the best methods for coping with problems which are bound to confront the novice in mountaineering. He advocated the teaching of young men by the experienced members of the Club. Colonel E. L. Strutt discussed clothing generally; General C. G. Bruce, Capt. G. I. Finch and Mr. G. P. Baker puttees; Mr. F. S. Smythe step-cutting, and Mr. H. V. Reade boots. Mr. W. N. Ling replied and received a very cordial vote of thanks.

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CORRIGENDA TO No. 238 (AND No. 237).

No. 237 : Illustration facing p. 397, ' Cathkin from the W.' is by W. E. Marriott.—O. K. W.

No. 238 : p. 69, footnote 7, Mr. Unna points out that ' aluminium ' should *read* ' duralumin,' adding that anyone using an aluminium piton would break his neck. [Judging by the duralumin crampons tried experimentally on the Rongbuk Glacier, Tibet, in 1922, the same remark applies to the latter mixture.—E. L. S.]

P. 146, line 32, *for* ' Matthews ' *read* ' Mathews.'

P. 164, line 4, *for* ' quite accessible ' *read* ' quite inaccessible.'

P. 165, line 39, *for* ' 1000 ft.' *read* ' 10,000 ft.'

P. 183, line 21. We understand that Mr. H. B. de Villiers-Schwab has never been President of the A.A.C.

P. 183, line 39, *for* ' Appalachian ' *read* ' American.'—J. M. T.

P. 213, line 39, *for* ' Under ' *read* ' Unter Stecknadeljoch.'

P. 215, line 21, *for* ' 11,903 ' *read* ' 10,903 ft.'

P. 228, line 41, *read* ' Apennines.'

P. 229, a contemporary points out that Mr. Smythe's attempt on the Eiger was by a route little more than a variant of that taken in the successful ascent of January 7, 1896, ' A.J.' **18**, 47.

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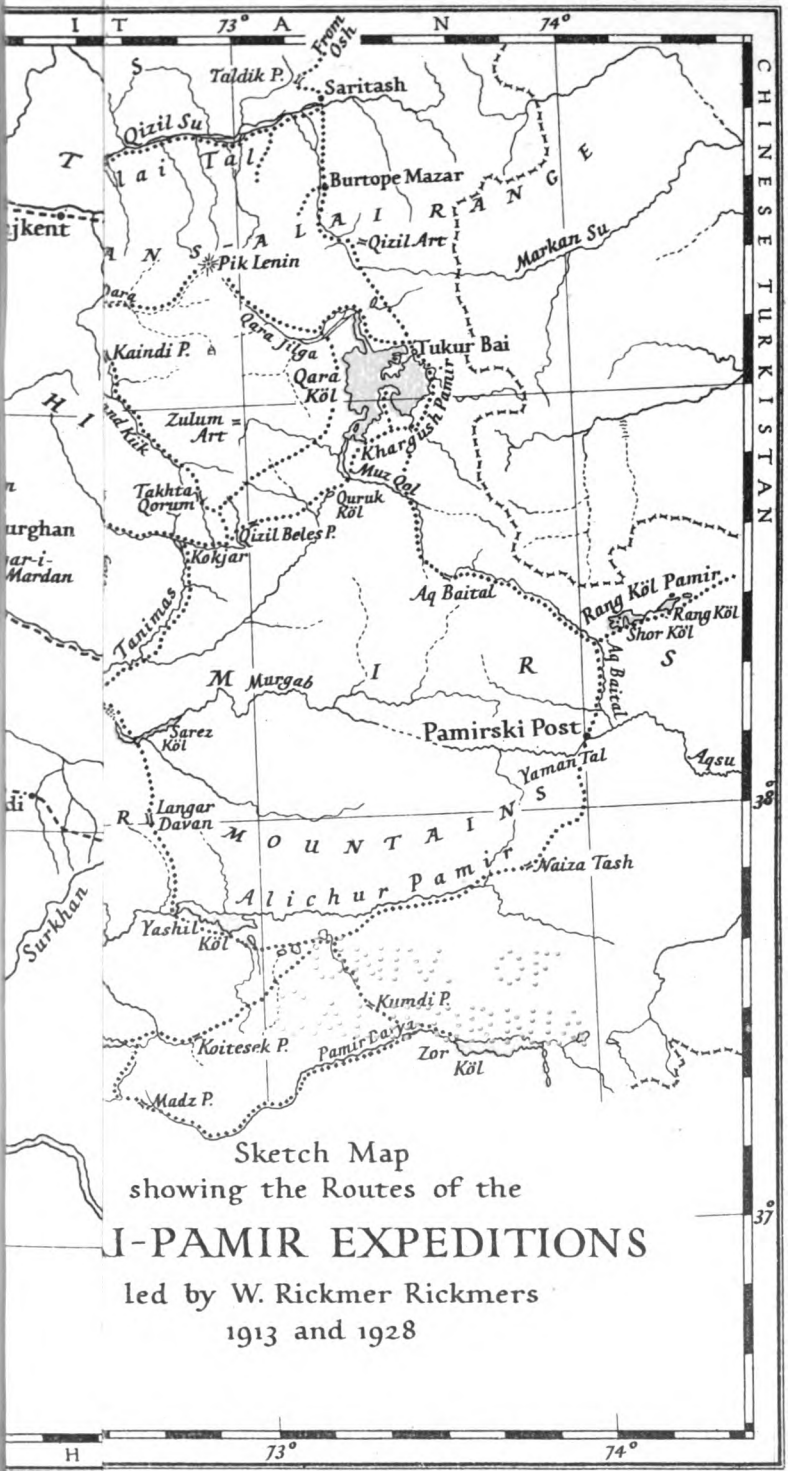

Sketch Map
showing the Routes of the

I-PAMIR EXPEDITIONS

led by W. Rickmer Rickmers
1913 and 1928

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VOL. **41**, NOS. 238 AND 239

CORRIGENDA TO NO. 239 (AND NO. 238)

No. 238, p. 225, last paragraph and p. 226, second paragraph, *for* ' Crauford ' *read* ' Craufurd.'

P. 251, ' First Ascents,' paragraph 5, *add* 1a. 27 DEMIRKASYK.

No. 239. Illustrations facing pp. 328, 334 and 335, *for* ' Witney ' *read* ' Whitney.'

P. 413, footnote, last line, *for* ' 1929 ' *read* ' 1930 edition.'

P. 436, line 41, *for* ' reserve ' *read* ' rescue.' R. K.

P. 437, line 3, *read* ' Fräulein Schiess.' P. M.

P. 437, line 6, *for* ' climbed out of a chimney ' *read* ' climbed *into* a chimney.' R. K.

Pp. 441–2, ' Guide des Alpes Valaisannes.' By an unfortunate misunderstanding a review was given before the actual publication of the work. This is much regretted. The C.C. of the S.A.C. request us to state that the title and description will be as follows: *Guide des Alpes valaisannes*, Vol. II. (du Col Collon au Col de Théodule). 2ème édition élaborée pour le C.A.S.: par Marcel Kurz, ing.-topographe, avec utilisation de la première édition du Dr. Duebi (1922), la collaboration du comte Bonacossa et une notice toponymique du Dr. Léon Meyer. *Publication du Club Alpin Suisse.* En vente au Librairies Payot. . . . 1930.

The price is not yet settled.

The *Notice Toponymique*, reduced to 32 pp., will be given as a detachable *addendum* at the end of the volume, which is the property of the S.A.C.

We make the above rectification with pleasure, but would add that some reference might have been given to the original ' Conway and Coolidge ' series, the MSS. of which were handed over by the late Rev. W. A. B. Coolidge to the S.A.C. As the late Captain Farrar pointed out in ' A.J.' **35**, 310, it would have been at least courteous had the title page borne the former imprint:

' Avec utilisation des Climbers' Guides du Rev. W. A. B. Coolidge et de Sir Martin Conway.' Captain Farrar added, ' This is, of course, not the business of the author, who is responsible solely for the contents of the book—not for its title.'—EDITOR, ' A.J.'

P. 442, line 24, *for* ' 1863 ' *read* ' 1864.'

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BY MEMBERS OF THE ALPINE CLUB.

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